The City of Harrisburg
Mayor Stephen R. Reed

DEPARTMENT

OF

PUBLIC WORKS

2002 ANNUAL REPORT

James M. Close
Director

DEPARTMENT OF PUBLIC WORKS

ANNUAL REPORT

2002

CITY OF HARRISBURG
COMMONWEALTH OF PENNSYLVANIA

Office of the Mayor

The City of Harrisburg

City Government Center
10 North Market Square
Harrisburg, PA 17101-1678

Stephen R. Reed
Mayor

(717) 255-3040

FOREWARD

I am pleased to commend to your reading this comprehensive report for the year 2002, one of the most progressive years in the history of the City of Harrisburg since we were first incorporated as a municipality in 1791.

Harrisburg has come a long way from when it was listed in the first half of the 1980s as the second most distressed city in the United States. There remains a great deal more to be done, and this annual report is issued as a means to identify our progress through the activities, projects and operations of the City of Harrisburg. Such a report as this is issued for each department of city government under the Mayor's authority.

Every city employee and each city agency are integral to the success of Harrisburg. The work and achievements of the current era have written a new chapter in the Capital City's and region's history and, for this, every city employee can take pride and credit.

The City of Harrisburg's government is the most diverse municipal government in Central Pennsylvania. Our services and operations range from the traditional large municipal functions related to police, fire, public works, and parks and recreation to the more unique, such as water, sewer, trash collection, solid waste incineration, energy generation, recycling, economic development, areawide data processing systems, contracted sludge processing, codes enforcement and conducting major special events. Intertwined into all these functions are the administrative support functions related to risk management, legal, data processing, personnel, purchasing, billing, debt collection and financial management services. Everyone's role is important and everyone contributes to the overall success and functioning of this city.

This past year has considerably added to the overall positive performance of this government in achieving major public policy goals. For example:

(1) The Part I crime rate, considered to be the index by which crime is measured in communities, has dropped over 54% since 1981 and the crime rate is now at a 30 year low;

(2) The fire rate, meaning the number of fires per year, has dropped over 76% since 1982, and is now at its lowest level since citywide records have been kept;

(3) The number of businesses on the city's taxrolls, counted at 1,908 by the end of 1981, is now 5,976, the highest number ever recorded;

(4) The taxbase, assessed at $212 million in 1982, is now over $1.6 billion, the highest level ever recorded in city history;

(5) During the period of 1995 through 2002, the City broke the record four times for the amount of new economic development investments, setting new record levels in city history; in the current era, over $3.1 billion has been invested in Harrisburg, also a new record for any similar time period in city history, even when adjusting for inflation; the year 2002 was our highest year ever, with $269.7 million in new investment;

(6) The annual cost of living index consistently lists Harrisburg as being one of the most affordable communities in the midstate in which to own a home;

(7) The City, in 2002, for the fifteenth consecutive year, won the nation's top national award for financial reporting and accounting and, additionally, for the twelfth consecutive year, won the nation's top national award for budgeting; of over 2,560 municipalities in Pennsylvania, only 2 have attained the same status;

(8) The City, in 2002, for the fifteenth consecutive year, retained Tree City U.S.A. status, the highest community conservation award in the nation; and recently, City parks and recreation activities and programs garnered over 30 international, national and state awards; the city's Advanced Wastewater Treatment Plant won first place in Pennsylvania in statewide operational, maintenance and safety competition amongst other plants; the Harrisburg History Project, which includes the placement of pedestrian-level placards marking city historic sites, received the Historic Harrisburg Association's Preservation Award; the City's Melrose Gardens Housing Project received the prestigious Bellamy Award from the Pennsylvania Housing and Redevelopment Agencies' Association, their highest recognition;

(9) The City and region were selected by the state Chamber of Business and Industry as Pennsylvania's Outstanding Community for the year 2002, marking the second time Harrisburg has won the state's most prestigious municipal honor. Harrisburg was also selected as Pennsylvania's Outstanding Community in 1990.

(10) The City retained National Police Accreditation, the highest recognition for law enforcement in the nation; of over 21,000 police agencies, only 443 have attained the same status;

(11) The City attained top national and state awards for its transportation infrastructure improvements, its energy conservation efforts, its historic rehabilitation projects and a myriad of other City pursuits, making the City of Harrisburg the most award-winning municipality in Pennsylvania; the city's Vehicle Maintenance Center and its Director received the top international award from the Association of Fleet Administrators for the city's innovative vehicle purchasing program, which cuts vehicle purchase costs by 10% to 15% and has thus far saved the city and its fellow participating municipalities over $6 million in reduced vehicle purchase costs;

(12) Harrisburg continued to be one of the leading cities in the country in the creation of alternative energy and revenue sources; thus far, in the current era, the City has generated over 15.3 billion pounds

of steam, co-generated over 903 million kilowatts of electrical energy, saved over 9.6 million cubic yards of landfill space and produced energy equivalent to over 870 million gallons of foreign oil;

(13) The City has fully or partially funded projects that have resulted in new construction or restoration of over 5,000 residential units, in the form of homes and apartments, making Harrisburg the largest residential developer in Central Pennsylvania;

(14) Additional upgrades have occurred in the Harrisburg Parks System, now the largest municipal parks system in the Midstate and the only municipal parks system to play a continuous regional role; the City has invested over $68 million in parks and playgrounds since 1982;

(15) Attendance figures continue to show Harrisburg as a dynamic center for recreation, arts and entertainment, with over 2.3 million in attendance for the city's various free, regional special events. The Harrisburg Senators again surpassed the quarter million attendance mark with 283,661 fans in 2002, a new annual record, and are now well over the 3.75 million mark in total attendance, and the Harrisburg Heat have drawn more than 1.2 million fans during their tenure at the State Farm Show Complex.

(16) Citywide neighborhood recreational programs attracted their largest annual attendance ever, with 571,688 attendance in 2002, a 5% increase over 2001, and a dramatic 19% increase since 2000;

(17) The City continued in its Class 7 designation under the National Flood Insurance Program; only three other municipalities in the Nation have an identical or better designation; the classification is the result of the City's floodplain management and emergency management programs; Harrisburg is the only municipality in Pennsylvania to be upgraded in its classification, and in Harrisburg's case, was upgraded three times, giving City property owners a 15% reduction in the base premium for flood insurance;

(18) The City's Fire Bureau is one of 27 Federally-designated Urban Search and Rescue teams, one of the groups available for deployment anywhere in the U.S. for a major national disaster; further, the Commonwealth of Pennsylvania contracted the City to serve as administrator of Pennsylvania Task Force One, which involves resources from across and outside the state, to respond to such emergencies; the City of Harrisburg and the state Task Force were the first team deployed to the World Trade Center on September 11, 2001, in response to the worst terrorist attack in United States history;

(19) In conjunction with its operation of Task Force One, the City has constructed a new Special Operations Center that now serves as the headquarters and staging center for the Task Force and other specialized emergency operations.

(20) As a result of the success of the first Task Force, a second Intra-State Task Force, for response solely within Pennsylvania, has been created by the State. Additionally, the Water Rescue Strike Team One, a sophisticated new marine rescue unit capable of handling water-related emergencies anywhere in the State, is now operational. Harrisburg administers both of these recent additions to the Pennsylvania Emergency Management System.

(21) In the area of community services, Harrisburg continues to be the most engaged municipality in the region in matters of affordable housing and sheltering the displaced. As a result of joint effort by the City, County and human service providers, a second major grant—for $1,088,000—was secured for both short-term shelters as well as intensive homelessness abatement and prevention.

(22) City coordination and support have resulted in over 225 city blocks being adopted under the Adopt-A-Block beautification program, and another two dozen vacant lots are similarly cared for under the Adopt-A-Lot program; 29 citizens have been trained as citizen codes inspectors to assist city Codes Enforcement Officers, and over 200 citizens have now graduated from the city's innovative Citizens Police Academy, the first of its kind in the midstate; more than 100 city blocks and neighborhoods are now covered by neighborhood crime watch groups;

(23) On a daily and continuous basis, City agencies and personnel performed thousands of services and tasks, for which neither recognition nor attention were provided, but all of which served to enhance the quality of life in Harrisburg with benefit to citizens, businesses and visitors.

(24) The Commonwealth of Pennsylvania has committed $12 million to the planned new city university, Harrisburg Polytechnic Institute, and the Institute's Preparatory School and Business Incubator will soon open in a restored 83,000 sq. ft. former vacant site in the 200 block of Market Street. More than $9 million in renovations are currently underway in the former YWCA site.

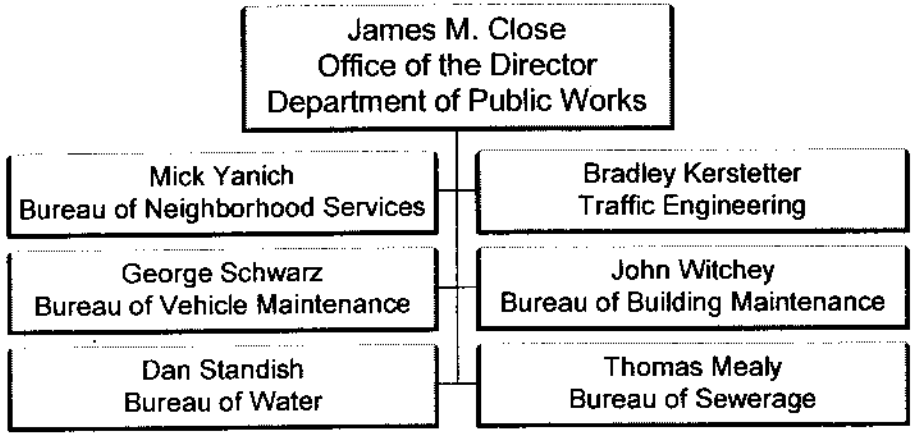
All should know and understand that American cities continue to face major challenges, frequently involving forces and factors over which a local government has no control. Our gains here have been the result of vision, struggle, persistence and arduous effort. The resurgence of Harrisburg in the current era has reversed previous decades of decline but we, too, are subjected to the unique burdens which the Nation and region place solely upon cities. It remains critically important that each of us rededicate ourselves to the furtherance of Harrisburg's best interests as we carry forth our respective roles and duties. The collective and individual efforts of Harrisburg's employees have made history. We owe it to the people we serve to build upon our present day progress by continuing our commitment to a constant, daily effort to be the best at what we have been hired to do for this City.

To the citizens and taxpayers of Harrisburg we dedicate this comprehensive annual report and our full measure of devotion in the days ahead.

Stephen R. Reed
Mayor

CITY OF HARRISBURG
DEPARTMENT OF PUBLIC WORKS

ORGANIZATIONAL CHART



Bureau of City Services

Annual Report

2002

City of Harrisburg

Commonwealth of Pennsylvania

City of Harrisburg

Bureau of City Services
1690 S. 19th Street
Harrisburg, Pa. 17104

Telephone: (717) 236-4802
Fax Number: (717) 238-2686

Honorable Stephen R. Reed.....Mayor

Department of Public Works

James M. Close.....Director

Bureau of City Services

Michael T. Yanich.....Director

Dennis C. Howe.....Deputy Director

Employee Roster

Name	Seniority Date
Barber, Kenneth	9/09/1991
Brown, Tyrone	6/27/1988
Bruno, James	9/27/1993
Bryant, Waddie	2/16/1977
Burns, Oran	7/10/1991
Carson, Terry	8/26/1985
George, Herbert	5/20/1974
Hernandez, Carlos	2/09/1987
Marks, Calvin	5/12/1980
McCloskey, Thomas	8/28/2000
McDonald, Lawrence	12/27/1990
Neff, Dale	2/11/2002
Paige, Garry	6/18/2001
Roy, Clarence	2/13/1989
Smith, Robert	11/27/1978
Spiroff, David	4/30/1979
Stimeling, William	10/27/1986
Truax, David	4/24/1978
Washington, Kenneth	12/22/1986
Watlington, Daniel	6/29/1987

EXPENDITURE ANALYSIS DETAIL
2002 BUDGET

Special Revenue Fund — 2020 State Liquid Fuels

Allocation Plan

PERSONNEL SERVICES		
Salaries-Mgmt	42,735	
Salaries-BU	313,954	
Overtime	11,932	
Fringe Benefits	91,347	
Miscellaneous	12,300	
TOTAL		472,268
OPERATING EXPENSES		
Communications	0	
Professional Fees	0	
Utilities	0	
Insurance	0	
Rentals	0	
Maintenance & Repairs	61,400	
Other Contracted Services	0	
Supplies Expense	139,955	
TOTAL		201,355
CAPITAL OUTLAY		0
TRANSFERS		107,412
TOTAL APPROPRIATION		781,035

Position Control

JOB CLASSIFICATION	2002 BUDGET	ALLOCATION
Assistant Director	1	42,735
Total Management	1	42,735
Construction Tradesman	1	38,058
Heavy Equipment Operator III	2	76,066
Heavy Equipment Operator II	1	36,812
Street Maintenance Worker II	1	35,699
Motor Equipment Operator	3	97,465
Laborer II	1	29,854
Total Bargaining Unit	9	313,954
Overtime		11,932
FICA		28,237
Fringe Benefits		63,110
Total Fringe Benefits		91,347
Sick-Leave Buy-Back		500
Severance Pay		0
Unemployment Compensation		1,000
Workers' Compensation		1,000
Loss/Time Medical		8,100
State Fees		900
Excess Policy & Bond		800
Non-Uniformed Pension-Plan A		0
Non-Uniformed Pension-Plan B		0
Total Miscellaneous		12,300
TOTAL	10	472,268

EXPENDITURE ANALYSIS DETAIL
2002 BUDGET

General Fund | 0162 City Services

Allocation Plan

PERSONNEL SERVICES		
Salaries-Mgmt	46,805	
Salaries-BU	351,584	
Overtime	15,714	
Fringe Benefits	101,100	
TOTAL		515,203
OPERATING EXPENSES		
Communications	5,080	
Professional Fees	250	
Utilities	7,700	
Insurance	0	
Rentals	3,500	
Maintenance & Repairs	25,500	
Other Contracted Services	252,650	
Supplies Expense	31,450	
TOTAL		326,130
CAPITAL OUTLAY		0
TOTAL APPROPRIATION		841,333

Position Control

JOB CLASSIFICATION	2002 BUDGET	ALLOCATION
Director (City Services)	1	46,805
Total Management	1	46,805
Demolition Crew Leader	1	39,104
Heavy Equipment Operator III	1	38,008
Heavy Equipment Operator II	1	37,659
Demolition Specialist II	1	36,862
Light Equipment Operator III	1	35,699
Demolition Specialist I	2	71,198
Street Maintenance Worker I	1	33,396
Laborer II	2	59,658
Total Bargaining Unit	10	351,584
Overtime		15,714
FICA		31,679
Fringe Benefits		69,421
Total Fringe Benefits		101,100
TOTAL	11	515,203

Index

Alley Paving

The Bureau's annual alley paving program was completed in 22 workdays in August and September. All alleys were first cleaned, sprayed with weed killer, tac-coated, and finally paved.

This year we completed 2.32 miles using 108.24 tons of Binder asphalt and 1,259.17 tons of Wearing asphalt. The following list is of the alleys completed, date accomplished, and the length of each alley:

Date	Name	Boundary	Length
8/13	Logan	Vaughn to Graham	.269
8/14	Owen	Logan to 4th	.050
8/14	Martina	3rd to 4th	.068
8/15	Penn	Graham to Edward	.086
8/15	Owen	4th to Fulton	.034
8/16	Agnes	Vaughn to Alricks	.035
8/16	Kemp	Alricks to Angenese	.122
8/19	Joseph	Antoine to Graham	.060
8/21	Elizabeth	Seneca to Curtin	.056
8/21	Saul	Elizabeth to Jefferson	.045
8/22	Elizabeth	Curtin to Camp	.110
8/27	Oak	Elizabeth to 7th	.067
8/27	Moltke	Oak to Woodbine	.086
8/27	Elizabeth	Maclay to deadend	.041
8/27	Ivy	Moltke to 7th	.021
9/11	Turner	Maclay to Woodbine	.102
9/11	Sprague	Brensinger to Turner	.066
9/16	Wharton	Turner to 5th	.093
9/16	Brensinger	Wharton to Forrest	.069
9/16	Lemon	Turner to Unnamed alley	.045
9/17	Moltke	Camp to Emerald	.057
9/17	Gruber	Camp to Emerald	.055
9/18	McCleaster	22nd to 24th	.230
9/18	Home	McCleaster to Kensington	.029
9/23	Larew	Nelson to 18th	.036
9/23	Nelson	Mulberry to Eugene	.018
9/23	Florence	Cumberland to Herr	.051
9/23	Vista	Hunter to Berryhill	.040
9/30	Nectarine	Berryhill to North of Haehnlen	.218
9/30	Reese	13th to Buckthorn	.021
9/30	Reese	Crescent to Hummel	.040

Assistance Rendered

From time to time throughout the year the bureau is asked to provide assistance to other bureaus or departments in the City. This assistance can range from providing laborers or motor equipment operators to help in Sanitation collection duties to providing a heavy equipment operator to dig out street name posts for Traffic engineering. The following list is of the type of assistance given and which bureau/department given to:

Laborers for Sanitation-35 shifts.

Motor Equipment Operators for Sanitation-10 shifts.

Heavy Equipment Operators to run recycle loads for Sanitation-38 times.

Motor Equipment Operators to cover B-3 ash pile for Steam Plant-15 days-777 truck-loads.

Heavy Equipment Operator to pick up two generators for Fire Bureau from Harrisburg International Airport.

One Laborer and one Heavy Equipment Operator to remove the old computer mainframe for Building Maintenance at the City Government Center.

One Heavy Equipment Operator to pick up a bomb safe for the Police Bureau.

One Heavy Equipment Operator with a backhoe to dig up and install a new post for traffic signage at Cameron Street and Elmerton Avenue.

Whole Demolition crew to dig up a 25 foot deep water line that ruptured that runs from the A.W.T.F. to the Steam Plant.

Two Laborers and two Construction men to repair a large section of the Parking lot on City Island using 9.08 tons of Asphalt.

One Laborer and one Motor Equipment Operator to set up water filled jersey barriers for security at the 4th of July and Kipona festivals.

Cracksealing

The bureau did cracksealing in April and October in 2002. In April, we completed the following areas: Brookwood Street from Derry to 29th; 2nd Street from Vine to Maclay; 3rd Street from Chestnut to Forster; Chestnut Street from Front to 4th; and Market Street from Front to 5th.

Five dates in October were utilized to seal all paved surfaces in Wilson-Taylor Park.

Specific Cleanups

The bureau gets called upon throughout the year for assistance with specific or specialized cleanups. On the 20th of March we cleaned up the area from Derry to Market Streets and 13th Street to Sylvan Terrace. We removed 19,900 pounds or 9.95 tons of trash and bulk items. On the 6th of March and the 6th of August we did a tire roundup throughout the City and took 33,160 pounds of tire to a recycling plant in Liverpool.

In April we did a sweep through Bellevue Park for bulk items and removed 8,900 pounds or 4.45 tons of bulk items. On two dates in April and one in May, we power sprayed the Market Street underpass to prepare it for painting. On May 16th we did a cleanup on City Island for Armed Forces weekend.

In August the Bureau removed all of the old components from the City Government phone system after the new system was installed. Also in August on the18th, we removed 1600 pounds of fire debris from the 1600 block of Pass alley.

Repair Storm Sewer

On May the 6th and 7th we repaired a storm sewer that drains into the River at Front and Shamokin Streets. 20 feet of Corrugated steel pipe was replaced and 168 tons of stone and 2 tons of topsoil was used to accomplish the task.

Archeological Dig

The annual Archeological dig was held on City Island in September and the bureau assisted with the removal and subsequent replacement of the asphalt and stone used to cover the site area. It took two days in September to remove the asphalt with a backhoe and use the Vactor to suck out the stone, and one day in early October to Bacfill the dig area using 27.22 tons of stone and 16.00 tons of asphalt.

Fencing of Demolition Lots

The Bureau Construction crew fenced off thirty-nine of the lots where the Demolition crew had torn down houses. We used a two-man Auger to drill the holes into the ground and then installed Plastic PVC fencing. The following list is of the lots fenced off and the dates completed:

1-30 – 1600 Block of Market - 6 properties

3-1 – 1518 N. 6th

3-4 – 1506 N. 5th

3-12 – 510 & 512 Emerald / 1328 Susquehanna

3-19 – 332 & 334 Peffer / 2000, 2002, & 2004 N. 4th

3-27 – 1512 N. 6th

4-9 – 2321, 2323, & 2325 Logan / 600 & 602 Seneca

4-11 – 1536 N. 6th /

4-23 – 18th and Market – 2 properties

5-1 – 4th and Peffer – 3 properties / Peffer and Walter – 2 properties

6-25 – 1718 ½ N. 5th

7-1 – 1705 &1705 A. N. 5th

8-11 – 1531, 1533, 1535, 1537, 1539, & 1541 Swatara

Demolition

The Bureau's Demolition crew finished 47 properties in 2002, which is six less than the 53 done in 2001. The building of party walls between properties where one gets torn down and the other one remains is the most time consuming job for the crew. Building a party wall is relative to the same concept as shoring up an excavated ditch. First, we must remove any debris that is in the way, then start on the lowest floor and build up from there. After the party wall is built we can start to cut the roof, and then cut straight down between the two properties, whether it is a brick wall or a wooden structure. The following list is of the properties removed in 2002 and the month completed:

January – 1536 N. Sixth

February – 306 & 308 Muench/ 1328 Susquehanna

March – 339, 341, & 343 Peffer/ 1901 ½, 1903, &1903 ½ N. Third

April – 1821 ½ N. 5th/ 1705 &1705 A N. 5th

May – 1718 ½ N. 5th/ 1517 Hunter/ 1600 Hunter/ 1507 Compass

June – 334, 336, & 338 S. 16th / 1531, 1533, 1535, 1537, 1539, & 1541 Swatara

July – 334 & 336 Boyd/ 2044 & 2046 N. 4th/ 338 Harris

August – 1323 Marion/ 326 &328 Reily/ 1627 Regina (Emergency knockdown only)

September – None – Dual party walls on 612 & 614 Kelker/ started 236 S. 13th

October – 236 S. 13th/ 1646, 1648, & 1650 Wallace/ 612 & 614 Kelker/ 1718 N. 3rd

November – 634 & 636 Harris/ 1606 N. 6th

December – 1712 & 1714 Market

Final Street cut Restorations

Nineteen final street cut restorations were completed in 2002. The street cuts were for various reasons including sinkholes, manholes when the casing and lid needed replaced, and storm inlets that had been repaired. 29.47 tons of binder asphalt, and 38.70 tons of top layer asphalt were used to accomplish these jobs. The following list is of the locations and date of restoration:

5/3-1400 block of Market

5/14- Hale and Swatara-2 cuts

5/14-123 Pine

5/14-1800 block of Zarker- 2 cuts

5/15-26th and Woodlawn

5/15-13th and Berryhill

5/16-1706 Briggs

5/16-1506 S.12th

5/29-12th and Cumberland

5/30-Green and Woodbine

6/13-2500 N. 2nd

8/1-100 block of Geiger

8/7-3rd and Boas

9/12-4000 block of Industrial

9/13-25th and Greenwood

11/6-14th and Kittatinny

Illegal Bulk

Illegal Bulk Items are collected from alleys, City owned lots, and sometimes right on the sidewalks in all areas of the City, throughout the year. The Bureau tackles this problem by assigning as many days per month as possible to collect the discarded items. One Bureau member, with a clam-bucket truck, performs this task. In 2002, the Bureau collected 510,920 pounds or 255.46 tons more of bulk items than in 2001.

The following list is of the number of days scheduled per month as well as the amount of weight collected:

Month	# Days	Pounds / Tons
January	2	2,820 / 1.41
February	11	60,690 / 30.345
March	17	189,030 / 94.51
April	17	169,830 / 84.915
May	13	79,640 / 39.82
June	14	90,580 / 45.29
July	17	111,280 / 55.64
August	16	114,780 / 57.39
September	17	118,840 / 59.42
October	15	146,640 / 73.32
November	7	34,620 / 17.31
December	9	64,060 / 32.03
Total	155	1,182,900 / 591.45

Leaf Collection

Leaf collection was conducted for 35 workdays, starting October 23rd, and ending December 31st. Leaves are collected in conjunction with the Street Cleaning schedule.

This leaf season we had an early December Snow storm that caused us to remove the leaf boxes early. We collected 702,890 Pounds or 351.445 tons of leaves in 2002. In all 75,430 pounds or 37.715 tons more leaves were collected than in 2001

Christmas Tree Collection

In the month of January, the Bureau picks up Christmas trees in conjunction with the Sanitation Bureaus recycling schedule. The Bureau collected 1,168 Christmas Trees, in 2002. All trees are taken to the Salt Pile Area of the Advanced Wastewater Treatment plant where they are chipped up by Parks Maintenance, and then hauled away by a private hauler.

517 more trees were collected in 2001, because we had several days in January when we were dealing with Snow and Ice Storms. The Sanitation Bureau picked up any trees that were not collected by the end of January.

Barricades

Barricades are distributed throughout the year for various functions, including Block Parties, Parades, the Kipona and Independence Festivals, the Harrisburg Marathon, National Night out, and other such events that require streets to be closed. 1,211 sets of Barricades were distributed throughout 2002. The following list is of the amount of Barricades delivered by the month:

January – 12

February – 8

March – 64

April – 108

May – 144

June – 41

July – 267

August – 173

September – 133

October – 105

November – 113

December – 43

Manholes Repaired

Four manholes were repaired or sealed off to stop overflow from the sanitary sewers into the storm water system. On the 5th of the month, two manholes were re-grouted in the area of 15th street and the Route 22 Bypass. On the 6th of the month, a wall in the manhole in the intersection of Jefferson and Woodland had to be repaired, replacing 13 bricks and re-grouting all of the walls. On the 8th of the month, at the intersection of Rolleston and Pemberton, we sealed off an overflow from the sanitary line into the storm line that drains into the creek, down on 19th street at the entrance to the Greenbelt.

New Manhole Casings and Lids

Seven new manhole casings and lids had to be installed, to replace broken or worn out ones that would not stay in place anymore, in the year 2002. The old ones had to be cut out of the asphalt and removed. The new Manhole casing and lid was placed in its place and concreted into place. The following list is of the dates and locations of the replacements:

3/5 – 21st and Berryhill
3/5 – Hale and Swatara
3/6 – Hale and Swatara (different one from above)
3/8 – 1855 Zarker
5/9 – 123 Pine
8/20 – 18th & Briggs
8/20 – 19th & Brookwood

Alley Cleanups

Six alleys were cleaned up with brooms, rakes, and shovels throughout the year. We assign two to four man crews to pick up all litter, sweep up any glass, and remove all bulk items from these alleys. In 2002, there was 114,060 pounds or 57.03 tons of litter and bulk items removed from these six alleys. The following list is of the alleys cleaned and date accomplished:

4/8 – Linden Alley
4/9 – Ethel Alley
4/22 – Finn Alley
4/29 – Julia Street
5/30 – Cover Alley
8/24 – Nectarine (Mulberry to Berryhill)

Organized Neighborhood Bulk Pick-ups

Fourteen Saturdays were set up for Organized Neighborhood Bulk Pick-ups in 2002. The Residents are responsible to pick up a petition in the Bureau of Codes, get at least 12 signatures from the neighborhood, and return the petition to Codes and the City does the rest. We assign a four square block area around the neighborhood requesting the service, distribute flyers two weeks in advance with the rules and regulations, and then show up on the assigned Saturday, and remove all items set out for disposal. This year we collected 144,440 pounds or 72.22 tons more than in 2001. The following list is of the Dates, Locations, and amount of Bulk collected:

4/13 –	4th to 7th / Emerald to Schuykill	20,400 pounds or 10.20 tons
4-27 –	16th to 18th / Market to State	67,580 pounds or 33.79 tons
5/4 –	3rd to 7th / Forster to Verbeke	20,800 pounds or 10.40 tons
5/18 –	13th to 17th / Market to Derry	32,600 pounds or 16.30 tons
6/8 –	Front to 4th / Emerald to Schuylkill	41,620 pounds or 20.81 tons
6/22 –	4th to 7th / Maclay to Emerald	44,910 pounds or 22.45 tons
6/29 –	Front to 4th / Radnor to Division	9,810 pounds or 4.90 tons
7/13 –	Front to 4th / Maclay to Emerald	39,140 pounds or 19.57 tons
7/27 –	Market to State / Cameron to 13th	39,060 pounds or 19.53 tons
8/5 –	22nd to 24th / Berryhill to Kensington	24,700 pounds or 12.35 tons
8/24 –	17th to 21st / Derry to Greenwood	21,600 pounds or 10.80 tons
9/14 –	13th to 17th / State to Herr	59,220 pounds or 29.61 tons
9/28 –	Front to 3rd / Muench to Hamilton	29,860 pounds or 16.46 tons
10/5 –	13th to 18th / Herr to Route 22 Bypass	39,600 pounds or 19.80 tons
Total of 14 dates /		**540,480 pounds or 270.24 tons**

Potholes

Potholes develop when moisture gets into a crack in the road surface and starts to wash out the base from underneath. When the road freezes and then thaws it makes the road surface swell and contract, and the cracks get larger until pieces start to break off and get pulled out by passing traffic. We attempt to preserve some of the streets and alleys by crack sealing in the spring, when the road surface, and sub-surface really starts to thaw out. The best time for crack sealing is when the temperature is between 40 and 60 degrees Fahrenheit.

The Police, Fire, Citizens, and the other Departments throughout the City report potholes. Also, they are observed and repaired by all members of the Bureau.

The annual Pothole hotline is started in the middle of March and runs till the middle of April. All calls are recorded and are responded to within a couple of days of receiving the report.

Filling Potholes takes a crew of two men with a small dump truck, rakes, and a hand tamper to compact the asphalt.

The following list is of the Number of days assigned for potholes, and the amount of asphalt used to complete the task:

Month	# ofDays	Amount
January	1	1.50 tons
February	3	3.64 tons
March	5	8.64 tons
April	7	12.16 tons
May	3	5.24 tons
June	2	4.48 tons
July	2	1.75 tons
August	1	1.01 tons
September	2	2.04 tons
October	1	.25 tons
November	0	0
December	1	1.47 tons
Total	**28 days**	**42.18 tons**

Prepare Alleys for Paving

Before alleys can be repaved, they must first be cleared of all debris, sprayed with a weed killer, and have a notch cut into each end to blend in the new asphalt with the existing asphalt. This task takes four to five men and we used 11 full shifts to prepare all the alleys on this years paving list.

Paved Walkway in Riverfront Park

At the request of the Department of Parks and Recreation, the bureau paved a 190 foot section of walkway in Riverfront Park using 76.05 tons of asphalt.

Reroute Sanitary Connection

The property at 245 Seneca Street's Sanitary Sewer lateral was connected to a storm line that drained into the River. The bureau dug up the line and rerouted it 16 feet from the storm line into the nearby sanitary sewer.

Prepare Trucks

There are two seasons that require the trucks to be modified for specialized circumstances, leaves and snow. For leaf season, the bureau outfits four five-ton trucks and two 2 ½-ton trucks with leaf boxes. This task takes an average of forty minutes per truck to accomplish.

For snow season all ten of the five-ton trucks and all eight of the small dump trucks are fitted with an auger and a spinner to dispense salt and when necessary add a plow for plowing snow. The balance of the year the dump trucks are ready for hauling asphalt for alley paving, or stone and asphalt for sinkholes, and to haul for Demolition or any other hauling necessary.

Repair Inlet Lateral

On the 22nd of July the Bureau was notified that a storm inlet was not taking the water off the street. We cleaned the inlet in the 1100 block of Green Street, and found the lateral to be partially collapsed. We then dug up the lateral and replaced 4 foot of terra cotta pipe with 8" P.V.C. plastic pipe. The hole was backfilled with 8.78 tons of stone and covered with 4.04 tons of asphalt.

Sanitary Sewers Cleaned by the Vactor

Whenever a Sanitary Sewer is blocked up or surcharged as we call it, the Vactor is taken to the location to flush out the main sewer line to eliminate the blockage. Also the Vactor would be called upon to clean the line when a sewer needs to be televised to locate possible problems. The following list is of the Sewer lines cleaned by the Vactor in 2002:

January-2261 N. 6th/1439 Market /29th & Heather

February-1339 S. 18th/384 Wyatt/15th at the Bypass/2600 Green/2930 Wilson Parkway

March-2972 Heather/1507 N. 15th/1257 Hudson/1800 Market/2600 Rudy/2700 Rudy

April-2200 Swatara/1437 S.14th/1700 Parkway/1800 George/1100 Muench/385 Yew

800 S. Cameron/14th & Cloverly/2100 Swatara/Manada & Wister/200 Granite

May-2100 N. 6th/2600 N. 3rd/1800 Spencer/2230 Swatara/2500 N.2nd/27 N. Cameron

700 S. 2nd/2900 Parkside Lane/2300 Kensington/200 S. Front/City Island at Market

June-200 Market/2870 Rumson/2nd & Vine/Front & Chestnut/500 Dunkle

July-3000 N. 3rd/ 600 Fillmore (rear)/2100 Derry/1600 N. 2nd/ 1000 James/1100 Green 2200 Derry

August-1400 S. 14th/13th & Haehnlen/2100 Derry/2200 Derry

September-1200 N. 14th/1100 N. 14th/1000 Melrose/100 Summit/1400 S. 13th

October-Susquehanna(Hamilton to Granite)/Granite(Susquehanna to Finley)/1604 N. 2nd/2600 Green

November-2500 Rudy/2264 Kensington/1011 S. 17th

December- No lines were cleaned in December

Sanitary Sewer System

One employee of the Bureau monitors the sanitary sewer system every workday throughout the whole year. The individual pulls as many as 40 manholes per day, to check the known trouble spots for periodic backups. The individual uses a long pole to move paper and other solids that get caught at joints and junctions back into the main flow channels. He also carries a can of Sewer Aid Chemical with him in the truck to drop into the manholes where grease accumulates. This Sewer aid when combined with water makes a very strong acid that breaks up all grease and other solids it comes into contact with.

The following list is of the 44 Manholes that needed this special attention, and how many times throughout the year:

7th and Antoine (22)	Dunkle and Derry (12)	1100 Herr (9)
22nd and Kensington (21)	Jefferson and Woodland (12)	640 S. 25th (9)
Thomas and Market (20)	Waldo and Radnor (12)	15th and Bypass (9)
29th and Heather (17)	2734 Reel (12)	377 Hale (4)
Thomas and Market (16)	2545 Green (12)	597 Division (3)
Hale and Rudy (15)	2600 Green (12)	2966 Wilson Parkway (3)
Turner and Emerald (15)	2737 N. 4th (12)	3016 Meadowlark (3)
Carey and Market (15)	17th and Revere (12)	2722 Lexington (3)
Goodyear and Knox (15)	2nd and Vine (12)	2964 Heather (2)
5th and Peffer (15)	5th and Antoine (12)	2200 Green (1)
2230 Kensington (15)	19th and Mulberry (12)	310 Wyatt (1)
3rd and Wiconisco (13)	2972 Heather (11)	2630 Waldo (1)
Wyatt and Croyden (13)	19th and Primrose (10)	
5th and Antoine (12)	17th and Hunter (10)	
2264 Kensington (13)	Hudson and Pemberton (9)	
385 Yew (13)	Honey and Chestnut (9)	

Second Shift

The second shift was utilized in a different way in 2002 than in the past, thanks to the warmer weather in January and February. In January, six shifts were used for snow, five shifts to make and paint 50 sets of barricades, six shifts to clean storm inlets, and one shift to dump and clean up all of the dump trucks. Also, in January, one two-man crew picked up Christmas trees on all shifts that snow-fighting duties were not necessary.

In February, no shifts were needed for snow fighting, fourteen shifts were utilized to clean all of the storm inlets on the State street bridge (35 inlets), and on Herr street from 15th to Cameron (8 inlets). In addition, 3 sanitary sewers were cleaned for televising at 2nd and Vine, 12th and Cumberland, and in the 1400 block of Market Street. One member of the crew did a street light survey of all the streetlights that were burned out or broken.

Replace Guardrail

On February 12, we replaced 3 sections of guardrail in the 1100 block of Derry Street that was damaged in a motor vehicle accident.

Assist Traffic Engineering

On February 28th and March 1st, we assisted Traffic Engineering with a backhoe and operator, and two laborers in dump trucks to remove some of the old street name signs and posts.

Curbing Repairs

Two curbs had to be repaired that were damaged by Sanitation Packers driving over the edges. The first curb repaired was on the 11th of March, and was at Bartine and Sayford Streets.

The curbing at 18th and Brookwood Streets was replaced on the 11th of April.

Sinkholes

Sinkholes sometimes develop, for no apparent reason, in roadway surfaces that can be dangerous to Motorists as well as Pedestrians. Limestone cavities and poor road base are some of the explainable reasons these dangerous holes develop.

Whenever the Bureau is made aware of a Sinkhole, we immediately respond and secure the area by placing a steel plate over the hole, or by barricading off the entire area, when our steel plates are not big enough to cover the hole.

A PA# 1 Call must be made before any excavation can begin. Making a PA# 1 call alerts all utilities that have underground services in the area of our intention to dig up the street. If it is an Emergency (Danger to life) we must wait, a reasonable amount of time, up to two hours, for all utilities to respond, or a non-emergency, we must wait for three days for all utilities to mark their underground services.

Fifteen Sinkholes were repaired in 2002. The following list is of the date, locations, and stone and asphalt needed to accomplish the job:

Date	Location	Stone	Asphalt
3/14	12th and Cumberland	3.04 tons	2.01 tons
3/15	1700 Briggs	2.00 tons	1.05 tons
3/21	Willow and Liberty	16.84 tons	6.24 tons
3/27	Third and Boas	8.50 tons	3.78 tons
4/4	Green and Woodbine	4.10 tons	2.04 tons
5/3	1400 Block of Market	8.20 tons	2.08 tons
6/23	100 block of South	1.00 tons	.50 tons
6/26	1428 Susquehanna	1.90 tons	1.04 tons
6/27	3004 N. 3rd	.50 tons	.25 tons
7/29	1200 Block of Thompson	8.00 tons	5.02 tons
8/3	300 block of Market	15.85 tons	3.51 tons
9/9	18th and Chestnut	9.40 tons	2.11 tons
10/22	100 Block of South	2.52 tons	1.02 tons
10/23	700 Block of Prince	0	1.00 ton
Total	**15**	**81.85 tons**	**31.65 tons**

Storm Inlets cleaned by the Vactor

In 2002, there was an extensive effort made to clean as many storm inlets as possible to improve drainage throughout the City. 490 inlets were cleaned which was 179 more than were done in 2001. The following list is of the inlets cleaned in 2002:

January-15th & North(NE & SE)/14th & Calder(SE)/15th & Boas(NW)/15th & Forster(SW)/Front and Mary(E&W)/7th & Reily(SW)/Fulton & Peffer(NE & SE)/Court & Pine(NE)/2nd & Chestnut(SE)/Green & Briggs(NE)/26th & Duke(NE & SE)/397 Hale(rear)/403 Hale (rear)/2512 Barkley/Fulton & Geiger(NE,NW & SE)/ Front & Herr(SE)/23rd & Market(SE)/2nd & Vaughn(NE)/2512 Woodlawn(Front)/ 27th & Woodlawn(NE)/ 18th & Swatara(SE)/ Fulton & Sayford(SW)/ Fulton & Muench(NE & SE)/ Herr & Susquehanna(NE)/ 7th & Herr(2 on South side)/ Hillside & Holly(NW)/ 21st & Chestnut(SW)/Ethel & Brose(SE)/Front & Liberty(NE & 2 on West side)/ 19th & Darlington(NE & NW)/512 S. 20th (Front)14th & Market(NE &NW)/14th & Kittatinny(SW)/ Kittatinny & Nectarine(SE)/ Reese & Evergreen(NE, NW, SE, & SW)/20th & Bellevue(NE & SE)/ Thornwood & Edgewood(NW)/Briarcliff & Southfield(NE)18th & Helen(NE)/ Hummel & Berryhill(NE)/ Hunter & Hummel(NE)/ 329 Crescent(Front)/ Crooked & Thompson(NE)/ Herr Street-Cameron to 15th(5 inlets)

February-1120 Jonestown road/Herr- Cameron to 15th (8 inlets)/14th & Thompson(NW & SW) 15th & Thompson(NW)/17th & Berryhill(NW)/ 3rd & Liberty(NE, NW, & SW)/16th & Liberty(NE)/ 7th – Herr to Reily(11 inlets)/ State Street Bridge(35 inlets)/17th & North(NE)/ Front & Hanna(NE)Penn & Delaware(SE)/ 17th & Verbeke(SW)/ 17th & Cumberland(NW & SW)/ 17th & Forster(SW)712 N. 17th (front)/ Green & Division(NE &NW)/ Green & Lewis(NE & SE)/ 3rd & Lewis(SE)/ 619 Schuylkill/ Penn & Emerald(SE & SW)/19th & Bellevue(SW)/20th & Rudy(SE)/ 20th & Market(SE)/20th & Chestnut(SW)/20th & Spencer(SW)/29th & Parkway(2 inlets)/Hillside & Holly(SW)20th & Forster(SE)/ 20th & Market(SW)/ Penn & Dauphin(SE & SW)/ 4th & Wiconisco(SE)/Penn & Peffer(NE & NW)/ 2022 Susquehanna(Front)/ Susquehanna & Geiger(SE)/ 19th & Pemberton(SE)/ Thompson & Crooked(NE)/ 15th & Thompson(NW)/7th & Herr(NE)/ 22nd & Kensington(NE)

March-19th & Park(NE)/1855 Zarker(North side)/20th & Whitehall(Park side)/19th & Bellevue(NW)/ 15th & Randolph(SE)/ 13th & Wayne(NE)/ 13th & Thompson(SE)/731 S. 26th (SW)/ 3128 N. 5th (Front)/ 5th & Woodbine(NE & SE)/ 5th & Forrest(SE)/ 1424 Market(Front)/ 3rd & Peffer(NE & SE)/ 5th & Peffer(NE & SE)/ Woodbine & Turner(NW)/ Forrest & Moore(SE & SW)/ Forrest & Turner(NW) 7th & Antoine(East side)/ 19th & Forster(SW)/ 18th & Market(NE)/ Vineyard & Pentwater(SE)/ Poplar & North(SW)/ 1820 Walnut(Front)/ 16th & Catherine(SE)/ Daisy & Berryhill(NW)/ 17th & State(SE)/ 18th & Boas(NE)/ Hummel & Berryhill(SW)/ 16th & Catherine(NE{2 inlets},NW & SW)/ 1720 Berryhill(2 inlets) 400 S. Cameron/ 5th & Walnut(NW)/ 13th & Market(SW)/19th & Derry(NW)/ Derry & Dunkle(SE & SW)/ 19th & Hanover(SW)/ 900 Maclay(2 Inlets)/ 4th & Chestnut(SE)/ 20th & Whitehall(SW)/ Jefferson & Graham(SE)/ 6th & Verbeke(SW)/ 5th & Muench(NW)/ 27 S. Summit(NE, NW, & SE)/ 326 Crescent(Front)/ 13th & Hunter(NE)/ 423 S. 13th(Front)/ 3rd & Market(SE & SW)

April-3rd & Vaughn(NE, NW, & SE)/ 452 Crescent(Front)/ Public Works Complex(3 inlets)/ 317 Front(Front)/ 2020 Chestnut(2 in Front)/ State Street Bridge(7 inlets)/ Green and Schuylkill(SE & NW)/ Forrest & Moore(SW)/ 13th & Market(NE)/ 18th & Boas(NE)/ Briggs and Poplar(SW & NE)/ 3218 Green(East & West sides)/ Kittatinny & Crescent(SW)/ 100 block of Summit(SE & SW)/ 15th & Randolph(SE)/ 13th & Wayne(NE)/ 13th & Hanover(SE)/ Forrest & Moore(SW)/ 18th & Brookwood(SE)/ 1722 Berryhill(2)/ 13th & Market(NE)/ 21st & Chestnut(SE & SW)/ Ponds in Bellevue(3)/ Vineyard & Pentwater(NW)/ Vineyard & Southfield(SE)/ Northfield & Southfield(NE)/ 1246 Market(Front)/ 2nd under the railroad bridge(East & West side)/ 7th & Harris(NW)/ 17th & Walnut(NW)/ 18th & Walnut(NE)/ Green & Schuylkill(SE & SW)/ 5th & Seneca(NE)/ 17th & Brookwood(NE)/ 17th & Berryhill(NW)/ 834 S. 17th / 2nd & Locust(NE & NW)/ 15th & Market(SE)/ 2nd & Division(SE, SW, & NW)/ Hillside off Rudy/ 19th & State(SE- 2 inlets)/ 15th & Randolph(SE)/ 19th & Paxton(SE)/ Jefferson & Wiconisco(SW)/ 3rd & Emerald(SE)/ 3rd & Woodbine(NE)/ 3rd & Lewis(SE)/ Green & Emerald(NE)/ 2nd & Graham(NE)/ Green & Woodbine(SE)/ 14th & Cloverly(3 inlets)/ 17th & Revere(SW)/ 1224 S. 19th(Front)/ 1326 S. 19th(Front)/ Sycamore(West of 13th)/ 13th & Wayne(NE)/ 1726 Sycamore(Front)/ 20th & Derry(SW)/ 1100 S. 19th

Storm Inlets Cleaned by the Vactor (Continued)

17th(north of I-83 Bridge)/ 14th & Hanover(SW)/ Front & Liberty(NW)/ Cameron& Calder(West side)/ 1228 S. 19th(East & West sides)/ 115 Conoy(Front)/ Mulberry & Sylvan(NE)/ William & Calder(NE)/ Dauphin & Susqeuhanna(NE)/ 3rd & Peffer(SE)/ Front & Kelker(SE)/ Front & North(NE)/ 1800 Susquehanna(Front)

May-7th & Emerald(SW)/ 6th & Graham(NW)/ 1239 S. 13th / Market Street Bridge and City Island Ramps(2 inlets)/ Lexington & Radnor(NE)/ Jefferson & Woodbine(NW)/ 112 Boas(Front)/ 2434 Berryhill(Front)/ Melrose & Berryhill(SE)/ 20th & Derry(SE &NE)/ 17th & Mulberry(NE)/ 17th & Chestnut(SE)/17th & Sumner(SW)/ 17th & Hanover(SE)/ Capital & Boas(NE)/ 19th & Pemberton(NW)/ Cameron & Sycamore(SE)/ Front & Nagle(NE)/ 5th & Division(SE)/ Penn & Seneca(NW)/ 5th & Maclay(SW)/ 5th & Peffer(SE)/ 16th & Liberty(SE)/ 18th & Briggs(SE)/ 3226 N. 6th(Front)

June- 3rd & Mulberry(SE)/ 17th & Boas(NE)/ 10th & Mulberry(SE)/ Derry & Sylvan(NE)/ Crescent & Swatara(NE & SE)/ Paxton & Hudson(SE & SW)/ 1000 Cumberland/ James & Boas(NE & SE)/ 13th & Hunter(NE)/ Jefferson & Ross(SE, SW, & NW)/15th & Drummond(SW)/ 240 Division(NE & NW)/ 3226 N. 6th(rear)/ 421 Maclay(Front)/ 1823 Market(Front)

July-2nd & Vaughn(SE)/ Kemp & Alricks(SW)/ 319 Schuylkill(Front)/ 2nd & Schuylkill(NE)/ 3rd & Hamilton(NE)/ 2nd & Locust(SE)/ Chestnut & Honey(SE & NE)/ Chestnut & Evergreen(SE & NW)/ 16th & Naudain(NE)/ 19th & Park(SE)/ 18th & Regina(NE)/ Mulberry & Court(NW)/ 626 Fillmore(rear)/ 13th & Berryhill(NE)/ 14th & Berryhill(NW)/ 4th & Edwards(SE)/ Mulberry & Christian(NE)/ 600 Fillmore(rear)/ Mulberry & Hummel(NE)/ 17th & Hunter(NE)/ 16th & Briggs(NE)/ 16th & Park(SE)/ 14th & Verbeke(NE)/ Front & Chestnut(West side)/ 1823 Market(Front)/ 16th & Naudain(NW)/ 1500 N. Cameron(Front)/ Paxton & Hudson(SW)/ 1415 Calder(rear)/ 18th & Holly(SE)/ 22nd & Kensington(NE)/ 18th & Rudy(NW)/ 1847 Market(Front)/ Green & Muench(NE & NW)/ 1070 S. Cameron/ 1285 Bailey(Front)/ 1286 Bailey(Front)/ Penn & Muench(NE)/ Shamokin & Susquehanna(North side)/ 1828 Chestnut(Front)/ 1823 Zarker(2)/ 900 James/ Riverside Stadium(6 inlets)/ Maclay Street Bridge(5 inlets)/ Thompson & Honey(NE)/ 6th & Graham(NW)/ 26th & Woodlawn(SE)/ Summit & Mulberry(SW)/ Chestnut & Mt. Pleasant(SW)

August-1200 Bailey(Front)/ 5th & Angenese(NW)/ 3rd & Locust(NE)/ Green & Edwards(NE)/ 17th & Regina(NE)/ 401 S. 19th(Front)/ Miller & Linn(SW)/ Jefferson & Woodbine(NW)/ 18th & Chestnut(SE)/ Oak & Moltke(SE)/ 22nd & McCleaster(rear)/Hummel & Reese(NW)/ 14th & Market(NE & NW)/ 1424 Market(Front)/ 1822 Walnut(2 in Front)

September- Turner(just North of Maclay)/ 18th & State(NE)/ 1809 Sycamore(Front)/ Crescent & Kittatinny(NW)/ 18th & Larew(NE)/ Kittatinny & Nectarine(NE & NW)/ Hunter & Nectarine(NW)

October-2200 McCleaster/ Lennox & Cona(SW)/ 1809 Rudy(2 in Front)/ Susquehanna & Granite(SE)/ Swatara & Nectarine(SE)/ 3rd & Schuylkill(SE)/ 19th & Market(SW)/ 2215 Southfield(Front)/ 20th & Mulberry(NE)/ 19th & Darlington(SE)/ Market & Briarcliff(SW)/ 2000 Bellevue(Front)/ 20th & Austin(NE) 16th & Brookwood(SW)/ 3rd & Kelker(SE)/ 20th & Bellevue(NW)/ Paxton & Hudson(SE)/ 19th & Paxton(SE)/336 S. 13th(Front)

November-No inlets were cleaned in November

December-16th & Liberty(Retrieved car keys from the inlet)

Storm Inlets Rebuilt

102 Storm inlets were rebuilt in 2002. This was 65 more than the 37 that were done in 2001. The following list is of the inlets repaired and month completed:

January-4th & Clinton(N.W.)/23rd & Market(S.E.)/2nd & Vaughn(N.E.)
25th and Adrian(N.W.&S.W.)

February-Front & Hanna(N.E.)/Penn & Delaware(S.E.)/Green & Lewis(N.E.&S.E.)
2nd & Lewis(S.E.&S.W.)/619 Schuylkill(South side)/3rd & Lewis(S.E.)/19th & Bellevue(S.W.)/25th & Mercer(N.W.& S.W.)/20th & Rudy(S.E.)/25th & Adrian(S.W.)/20th & Chestnut(N.W.)/Hillside & Holly(N.W.)/20th & Market(S.W.)/14th and Market(N.E.&N.W.)/437 Hale(rear)/2267 Kensington(rear)/2242 Berryhill(rear)
Penn & Peffer(N.E.&N.W.)/Susquehanna & Geiger(S.E.)/2022 Susquehanna(front)
15th & Thompson(S.W.)/Crooked & Thompson(N.E.)/Penn & Dauphin(S.E.)/2nd & Dauphin(S.E.)
7th Just North of Herr(East side)/5th & Muench(N.W.)

March-19th & Park(N.E.)/1855 Zarker(front)/19th & Bellevue(N.W.)/13th & Berryhill(N.E.)
26th & Woodlawn(S.E.)/18th & North(N.E.)/17th & State(N.E.)/400 S. Cameron(front)/20th & Whitehall(S.E.)/ Jefferson & Graham(S.E.)

April-3218 Green(front)/Kittatinny & Crescent(S.W.)/Briggs & Poplar(S.W.)/18th & Brookwood(S.E.)
1722 Berryhill(2 in front)/Forrest & Moore(S.W.)/13th & Hanover(S.E.)/7th & Harris(N.W.)/ Green & Schuylkill(S.E. & N.W.)/17th & Berryhill(N.W.)/2nd & Mary(N.E.)/ 2nd & Locust(N.E.,N.W., & S.E.)
20th & Market(N.E.)/15th & Randolph(S.E.)/15th & Market(S.E.)/13th & Wayne(N.E.)

May-2434 Berryhill(rear)/20th & Derry(S.E.)/Melrose & Berryhill(S.E.)/17th & Mulberry(N.E.)/17th & Chestnut(S.E.)/19th & Pemberton(N.W.)/20th & Market(N.E.)/5th & Division(S.E.)/3226 N. 6th (front)
Calder & Augusta(N.W.)/21st & Kensington(N.E.)2223 Kensington(rear)2224 Kensington(rear)

June-1500 Block of Cameron/ Crescent & Swatara(N.E. & S.E.)

July- 13th & Berryhill(N.E.)/4th & Edward(S.E.)/14th & Berryhill(N.W.)/Mulberry & Hummel(N.E.)
17th & Hunter(N.E.)/16th & Naudain(N.E.)1823 Market(front)/18th & Rudy(N.W.)/1285 Bailey(front)
1286 Bailey(front)/Honey & Thompson(N.E.)/26th & Woodlawn(S.E.)/2610 Woodlawn(front)
Chestnut & Mount Pleasant(S.W.)

August-6th & Graham(N.E.)/1200 Bailey(front)/1200 Block of Herr(North side)

September-18th & State(N.E.)

October- 3rd & Schuylkill(S.E.)/2000 Block of Bellevue(front)

Street Cleaning

Street cleaning is performed all year long, regardless of weather conditions. On days of snow and ice conditions, we assign Plow or Salt trucks to plow or salt back to the curb. All other days we assign Street Sweepers to sweep the streets. During the spring, summer, and fall we also assign Flusher trucks to spray water on the streets to keep down dust. Leaf collection is also a part of street cleaning, and it is started in October and runs through December, when all trucks need to be converted over for salting and plowing operations. Parked cars are a constant problem throughout the City. In 2002 30,763 Parking tickets were issued for street cleaning violations. Some streets in the City are impassable if only one car is parked on the street. When residents call and complain that they received a Parking ticket but the street was not swept or cleaned, we explain that if they were parked in violation of the times and days listed on the Street cleaning signs, then they have no choice but to pay the fine.

In 2002 we weighed every load of Sweeper debris for the Advanced Wastewater Treatment Plant, because we pay to have the debris hauled away. The following list is the month and weight collected:

January-583,880 pounds or 291.94 tons
February-229,240 pounds or 114.62 tons
March-203,780 pounds or 101.89 tons
April-107,530 pounds or 53.765 tons
May-120,230 pounds or 60.115 tons
June-111,020 pounds or 55.51 tons
July-86,190 pounds or 43.095 tons
August-138,865 pounds or 69.43 tons
September-192,130 pounds or 96.065 tons
October-233,064 pounds or 116.532 tons
November-647,410 pounds or 323.705 tons
December-409,530 pounds or 204.76 tons

Total – 3,062,869 Pounds or 1,531.4345 Tons

Snow and Salting

The Bureau had to respond to two Snow incidents in 2002, that dropped 9.50 inches of Snowfall in the first three months. The largest Storm of the Season occurred on the 6th and 7th of January when 5.50 inches of Snow fell on the area. Two full twelve-hour shifts, with sixteen men on each shift were needed to bring the streets back to a safe driving condition. The following list is of the Snow Storms in the first three months of the year:

1/6 – 4.80 inches
1/7 – .70 inches
1/19 - 3.80 inches
1/21 – .20 inches

Total 4 dates – 9.50 inches

Televised Sewers

Twenty-one Sanitary sewers were televised to check for problems in 2002. The majority of lines televised were found to have no structural damage, but a couple of the lines were collapsed. The locations and dates televised, and the results of the inspection are listed below:

1/22 – Willow and Liberty / problem in churches lateral

3/27- 200 block of Boas / no problem in City line

4/9- Boyd / 6th to 7th / problem in residents lateral
4/19- 17th and Parkway / Demonstration for Russian Delegation

5/9- Front and Chestnut / problem with rags and grease from Harrisburg Hospital
5/10- 2600 block of N. 3rd / no problem found in City line
5/13- 2500 N. 2nd / contractor found collapsed storm line
5/14- Granite / 3rd to Susquehanna / no problem found / for Capital Heights
5/22- 27 N. Cameron / looking at line for a new connection
5/23- 2900 block of Park side lane / no problem in City line
5/24- 100 block of N. Cameron / no problem in City line

6/3- 200 block of Market / problem found / contractor for Whittaker center fixed
6/12- 1700 block of State / problem in 33 foot deep sewer / Rogele fixed
6/19- 1000 block of Cumberland / Sanitary connection into storm line / removed
6/26- 1000 block of Hudson / no problem in City line

7/2- 3000 block of N. 3rd / no problem in City line
7/16- 1100 block of Green / no problem in City line
7/23- 1000 block of James/ problem in Residents lateral

8/5- 1400 block of S. 14th / no problem in City line

10/24- Susquehanna / Hamilton to Granite and on Granite from Susquehanna to Finley
(for Capital Heights project)

Training

The Bureau had seven different kinds of training in 2002.

General Tool Safety Training

On April 22, nine of the Bureaus employees attended the general tool safety class. All four of the guys from the Demolition crew, the three guys from the construction crew, and two of our three laborers attended.

Blood borne Pathogens

Twelve of the bureau employees attended blood borne pathogen training on the 25th of April.

Fire Extinguisher

May the 9th, nine employees attended fire extinguisher training down on the lower steps by the river.

Back Safety

On May the 15th, sixteen employees attended back safety training.

PPE & Hearing Protection

Thirteen employees attended personal protection equipment and hearing protection training on the 16th of May.

Right to Know Training

All of the Bureaus crews attended on May 31st Right to Know Training about the chemicals we use in City Services throughout the year. The training was completed in 1 hour and consisted of watching a 15-minute video, showing what hazards and what first aid might be needed associated with our every day usage of chemicals in the Bureau. The men were taught about Material Safety Data Sheets and where they are located in our shop.

Trenching and Shoring

The three-man construction crew and two of the three laborers attended trenching and shoring training on the 12th of June.

The Bureau's Management team is dedicated to the continued Training and Safety of all of the Bureau's work force and will continue to schedule more training for the future.

V.M.C. Charges

Month	Fuel	Oil	Parts	Tires & Batteries	Labor	Lube	Total
January-	2,660.56	102.04	9,428.86	808.18	6,711.00	64.00	19,774.64
February-	1,507.77	81.82	5,289.63	204.30	4,093.75	16.00	11,193.27
March-	1,921.77	31.03	8,396.12	114.01	1,870.00	48.00	12,380.93
April-	2,157.55	100.53	5,664.05	138.80	2,414.50	49.00	10,524.43
May-	1,992.12	64.37	12,600.87	0	5,500.75	32.00	20,190.11
June-	1,691.14	115.62	16,179.40	140.23	2,882.25	86.00	21,094.64
July-	2,174.67	102.32	7,945.67	1,058.33	6,964.25	36.00	18,281.24
August-	2,208.48	133.11	10,507.55	240.91	3,552.50	16.00	16,658.55
Sept.-	2,137.73	144.96	1,812.94	605.11	2,186.25	10.00	6,896.99
October-	2,404.97	70.77	3,173.31	969.38	3,385.50	48.00	10,051.93
Nov.-	2,301.47	51.31	5,275.19	84.40	4,691.50	48.00	12,451.87
Dec.-	2,907.47	48.91	3,164.19	148.40	3,723.50	48.00	10,040.47
Total	**26,065.70**	**1,046.79**	**89,437.78**	**4,512.05**	**47,975.75**	**501.00**	**$169,539.07**

BUREAU OF SANITATION

ANNUAL REPORT

2002

CITY OF HARRISBURG
COMMONWEALTH OF PENNSYLVANIA

CITY OF HARRISBURG

BUREAU OF SANITATION ANNUAL REPORT

2002

LIST OF EXHIBITS/FIGURES

CITY OF HARRISBURG
BUREAU OF SANITATION ANNUAL REPORT
2002
TABLE OF CONTENTS

CITY OF HARRISBURG

BUREAU OF SANITATION

ACCOMPLISHMENT REPORT

2002

GENERAL

The purpose of this report is to furnish information pertinent to the operation of the Bureau of Sanitation during the calendar year of 2002. The function of Sanitation is to collect and dispose of the municipal solid waste within the corporate limits of the City. The Bureau is responsible for weekly refuse collection. recyclable collection, and transportation to the Harrisburg Resource Recovery Facility for disposal.

The City's recycling law requires that all residential units separate glass. aluminum cans and certain plastics used for edible food or beverages for humans or animals.

OPERATIONS

The Bureau operated with thirteen crews – six Uptown. six on the Hill. and one commercial.

There are ten crews collecting the regular household trash and garbage daily, two that collect the recyclables, and one that services the commercial accounts.

As the recycling crews collect their loads. they are brought to the Public Works Complex and emptied into a trailer. The trailer is taken once a day to Recycle America in York. Pennsylvania for disposal.

There were twenty (20) Center City businesses issued fifty-four (54) gray totters for trash and garbage and fifty-three (53) blue totters for recyclables. Also, all midtown. uptown and hill bars. taverns and clubs were issued a total of eighty-five (85) blue totters.

The Center City accounts are emptied seven (7) days a week while the others are emptied between one and five times per week.

Two sanitation packers and one recycle truck were fitted with mechanical devices to lift and empty the totters automatically.

Now instead of having a variety of different sized trash cans at each location. the new totters provide uniformity, easy maneuverability and a much better appearance

VEHICLE DOWNTIME

Vehicle downtime increased from 856.25 hours in 2001 to 872.00 hours in 2002; an increase of 1.8 percent. Refer to Exhibit II for details.

QUANTITY OF REFUSE COLLECTED

In 2002 a total of 31,063 tons of refuse was collected and disposed of at the Harrisburg Resource Recovery Facility. This quantity reflects a 2.4 percent increase from the 2001 amount of 30,326 tons. Please refer to Exhibit III for a monthly breakdown.

The volume of residential recycling collected in 2002 was 1,370.5 tons. Refer to Exhibit IV for details.

Exhibit I

CITY OF HARRISBURG
BUREAU OF SANITATION

Vehicle Fleet – 2002

No.	Year	Make/Model
A-01	1989	Ford – Taurus
A-21	1989	Ford – Recycle Truck
A-25	1993	Ford – Recycle Truck
A-26	1990	Auto Car Trailer
A-27	1994	Tractor
A-28	1994	J & J Walk Floor Trailer
A-29	1999	International Recycle
A-30	1994	GMC – Packer
A-31	1994	GMC – Packer
A-32	1994	GMC – Packer
A-34	1994	GMC – Packer
A-35	1994	GMC – Packer
A-36	1996	GMC – Packer
A-38	2000	International – Packer
A-39	2000	International – Packer
A-40	2000	International – Packer
A-41	2000	International – Packer
A-42	2001	International – Packer
A-43	2001	International – Packer
A-44	2001	Condor – Packer
A-45	2002	Condor – Packer

Exhibit II

CITY OF HARRISBURG

BUREAU OF SANITATION

Vehicle Downtime – 2002

Month	Hours
January	70.00
February	57.75
March	75.25
April	76.50
May	57.75
June	87.00
July	64.00
August	68.75
September	64.75
October	70.25
November	68.75
December	111.25
Yearly Total	872.00

Exhibit III

CITY OF HARRISBURG

BUREAU OF SANITATION

Refuse Tonnage – 2002

Month	2000	2001	2002
January	2203	2445	2518
February	2404	2142	2150
March	2689	2447	2471
April	2502	2647	2806
May	2961	2873	2873
June	2911	2600	2605
July	2612	2591	2766
August	2789	2661	2582
September	2616	2328	2304
October	2608	2661	2854
November	2461	2492	2624
December	2311	2439	2510
Totals	31067	30326	31063

Exhibit III-A

CITY OF HARRISBURG

BUREAU OF SANITATION

Recycling Tonnage – 2002

Month	2000	2001	2002
January	84.00	85.70	118.0
February	81.00	69.20	72.5
March	93.00	72.20	126.4
April	83.00	73.30	129.0
May	98.00	69.30	126.0
June	93.00	88.80	118.0
July	79.10	64.00	118.8
August	88.00	74.30	104.2
September	73.00	75.00	122.0
October	88.00	85.70	98.5
November	71.00	80.20	113.9
December	74.00	77.30	123.2
Totals	1001.50	990.30	1370.5

Exhibit IV

CITY OF HARRISBURG

BUREAU OF SANITATION

Sidewalk Receptacle Tonnage 2002

Month	2002
January	28.29
February	24.60
March	25.83
April	27.06
May	28.29
June	24.60
July	28.29
August	27.06
September	25.83
October	29.29
November	25.83
December	27.06
Total	322.03

There are approximately 250 sidewalk receptacles placed throughout the City. Each receptacle was checked and emptied at least weekly with those in the downtown business district and commercial corridors of Market Street, Derry Street, South 13th Street and North Third Street being checked and emptied more frequently. Based on an average of 1.23 tons of litter being collected daily.

Exhibit V

CITY OF HARRISBURG

BUREAU OF SANITATION

Personnel Leave History 2002

Description	Man-Days
Bereavement Leave Immediate Family	5.00
Bereavement Leave Other Than Immediate Family	6.00
Compensatory Leave	7.00
Court Attendance County	7.00
Family Medical Leave	5.00
Jury Duty	9.00
Leave Without Pay	27.00
Modified Duty	128.00
Personal Day	91.00
Personal Family Medical Leave	6.00
Sick Family Medical Leave	11.07
Suspension Without Pay	18.00
Sick With Pay	362.72
Vacation Family Medical Leave	58.00
Vacation With Pay	584.66
Workers' Compensation	52.00
Total	1377.45

Exhibit VII

CITY OF HARRISBURG

BUREAU OF SANITATION

Public Complaints

2002

Month	Total Number	Average No./Day	Average No./Route/Day
January	59	2.6	0.20
February	58	2.9	0.22
March	67	3.2	0.25
April	54	2.5	0.19
May	67	2.9	0.22
June	85	4.3	0.33
July	38	1.7	0.13
August	31	1.4	0.10
September	40	1.9	0.15
October	37	1.6	0.12
November	38	1.8	0.14
December	49	2.2	0.17
Totals	623	29.0	2.22

Note: Customer complaints increased by 95 (18.0 percent) from 2001.
Complaints and inquiries involve both regular trash and recycled materials and illegal dumpings.

Exhibit VIII

CITY OF HARRISBURG
BUREAU OF SANITATION

Expenditure Analysis Detail
Budget 2002

Utility Fund — 2710 Sanitation

Allocation Plan

PERSONNEL SERVICES		
Salaries-Mgmt	54,084	
Salaries-BU	919,927	
Overtime	120,418	
Fringe Benefits	285,725	
Miscellaneous	96,800	
		1,476,954
OPERATING EXPENSES		
Communications	4,200	
Professional Fees	133,900	
Utilities	17,850	
Insurance	19,000	
Rentals	0	
Maintenance & Repairs	68,000	
Other Contracted Services	977,846	
Supplies Expense	100,285	
Total		1,321,081
CAPITAL OUTLAY		55,000
DEBT SERVICE		59,863
GRANTS		41,148
TRANSFERS		926,400
TOTAL APPROPRIATION		3,880,446

Position Control

JOB CLASSIFICATION	2002 BUDGET	ALLOCATION
Director	1	54,084
Total Management	1	54,084
Clerk-typist/Data Entry	1	31,598
Motor Equipment Operator	13	397,820
Laborer II	17	490,509
Total Bargaining Unit	31	919,927
Overtime		120,418
FICA		83,773
Fringe Benefits		201,952
Total Fringe Benefits		285,725
Sick Leave Buy-Back		700
Severance Pay		3,000
Unemployment Compensation		8,000
Workers' Compensation		3,800
Loss/Time Medical		75,100
State Fees		2,600
Excess Policy & Bond		3,600
Non-Uniformed Pension-Plan A		0
Non-Uniformed Pension-Plan B		0
Total Miscellaneous		96,800
TOTAL	32	1,476,954

Exhibit VIII
Bureau of Sanitation
Sanitation Utility Fund
2002 Budget

Account Name	1998 Actual	1999 Actual	2000 Actual	2001 Approved Budget	2001 Projected	2002 Approved Budget
REVENUE ANALYSIS SUMMARY						
Investment Income	46,422	54,560	52,968	23,000	36,457	23,000
Garbage/Refuse Collection	3,771,751	3,749,275	3,431,343	3,665,679	3,660,053	3,621,500
State Grants	69,213	51,351	65,838	70,000	70,000	70,000
Other Revenue	370	1,026	11,925	500	450	500
TOTAL REVENUE	3,887,756	3,856,212	3,562,074	3,759,179	3,766,960	3,715,000
Fund Balance appropriation	0	0	490,000	247,448	247,448	165,446
TOTAL RESOUCES	3,887,756	3,856,212	4,052,074	4,006,627	4,014,408	3,880,446
REVENUE ANALYSIS DETAIL						
Interest-Savings Account	14,081	11,996	13,895	55,000	8,171	5,000
Interest-Other	32,341	42,564	39,072	18,000	28,286	18,000
Gain on Sale of Investment	0	0	0	0	0	0
Garbage/Refuse Collection	3,716,796	3,586,752	3,570,494	3,565,000	3,565,000	3,565,000
Other Operational Revenue	370	920	11,925	500	450	500
Sanitation Liens-Principal	53,117	157,082	57,407	97,204	88,553	52,000
Sanitation Liens-Interest	1,838	5,441	3,442	3,475	6,500	4,500
Refund of Expenditures	0	106	0	0	0	0
State Grants	69,213	51,351	65,838	70,000	70,000	70,000
TOTAL REVENUE	3,887,756	3,856,212	3,562,074	3,759,179	3,766,960	3,715,000
Fund Balance Appropriation	0	0	490,000	247,448	247,448	165,446
TOTAL RESOURCES	3,887,756	3,856,212	4,052,074	4,006,627	4,014,408	3,880,446
ESPENDITURE ANALYSIS SUMMARY						
Personnel Services	1,301,036	1,298,910	1,374,736	1,524,495	1,392,752	1,476,954
Operating Expenses	1,284,924	1,236,354	1,270,103	1,332,351	1,292,403	1,321,081
Capital Outlay	104,793	201,490	282354.16	0	0	55,000
Debt Service	11,521	30,282	23,897	23,897	30,763	59,863
Grants	0	0	0	0	0	41,148
Transfers	806,071	615,167	0	1,112,595	1,112,595	926,400
TOTAL EXPENDITURES	3,508,345	3,382,203	2,951,090	4,006,627	3,828,513	3,880,446

Exhibit IX

CITY OF HARRISBURG

BUREAU OF SANITATION

2002 Personnel Directory

Management Staff

Name	Position	Employment Date
Lippi, Leroy T. Jr.	Director	09/02/86

Bargaining Unit Employees

Name	Position	Employment Date
Cartnail, Earl	Motor Equipment Operator	06/15/87
Chacon, Hector	Motor Equipment Operator	02/01/88
Chacon, Pablo	Motor Equipment Operator	08/08/88
Colon, Luis	Laborer III	08/07/95
Diaz, Richard	Laborer III	09/13/99
Espinosa, Luis	Motor Equipment Operator	05/26/92
Garcia, Gisbel	Laborer III	09/12/90
Garcia, Rafael	Laborer III	06/07/99
Gingrich, William	Motor Equipment Operator	05/09/95
Halty, Percy	Laborer III	07/06/92
Johnson, Aaron	Laborer III	09/16/96
Kazhdan, Yevgeniy	Laborer III	06/21/99
Layton, Cory	Laborer III	10/21/96
McMillen, Corey	Laborer III	09/13/99
Muniz, Joey	Laborer III	04/23/99
Ross, Gary	Laborer III	09/19/91
Shatto, Paul	Laborer III	09/28/92
Smith, Aaron	Motor Equipment Operator	09/27/93
Snyder, Keith	Motor Equipment Operator	04/13/98
Staley, Curtis	Laborer III	06/04/85
Steele, Clark	Motor Equipment Operator	07/29/96
Stimeling, Patricia	Clerk-typist	03/13/78
Taylor, Edward	Motor Equipment Operator	03/12/01
Vargo, Alan	Motor Equipment Operator	04/03/95
Washington, Darryl	Laborer III	11/27/89
Washington, Marvin	Laborer III	07/25/94
Washington, Michael	Motor Equipment Operator	06/07/99
West, David	Motor Equipment Operator	04/03/95
Wissler, John	Laborer III	11/15/51
Zenon, Ramon	Motor Equipment Operator	11/21/91

CITY OF HARRISBUARG

BUREAU OF SANITATION

2001 Personnel

Transfers/Resignations/Terminations

Bargaining Unit Employees

Name	Type	Date
Braddy, Curtis	Retired	08/31/01
Snyder, Keith	Transferred VMC	06/03/02

ACCOUNT ACTIVITY

There was activity in 173 accounts this year. Of these seven (7) were New Accounts, thirty-one (31) were Special Pick-ups, fifty-seven (57) were Excessive Volumes and seventy-eight (78) were Account Status Changes.

New Accounts:	(+)	$ 4,591.66
Special Pick-ups:	(+)	2,272.20
Excessive Volumes:	(+)	2,694.00
Account Status Changes:	(+)	1,916.19
Total		$ 41,474.05

Personnel Leave History

The sanitation operations utilized two-person crews for the thirteen daily routes, with one Motor Equipment Operator and one Laborer. With a thirty-person complement, one Motor Equipment Operator and one Laborer is scheduled for vacation daily. Refer to Exhibit V for details.

Scheduled Overtime

There are thirteen holidays per year. Since the Bureau provides six days a week service, we work eleven Saturdays to make up for those days off. Two of the actual holidays, the day after Thanksgiving and the day either before or after Christmas, depending where the day falls during the week, are mandatory work days also.

The non-holiday Saturday schedule is comprised of two employees, a Motor Equipment Operator and Laborer. There are forty-one of these scheduled days. This work is in addition to our five-day schedule and is filled by seniority.

Unscheduled Overtime

This is the overtime that is expended to fill in for vacancies created by illness, requiring long term convalescent leave, i.e. Workers' Compensation Rehabilitation, Family Illness and unfilled vacancies and Light Duty. Following is a breakdown of these items:

Workers' Compensation

Position	Man-Days
M.E.O.	22.0
Laborer	31.0
Total	53.0

Family Medical and Rehabilitation

M.E.O.	62.0
Laborer	20.0
Total	82.0

Catastrophic Leave

M.E.O.	00.0
Laborer	172.0
Total	172.0

Light Duty

M.E.O.	6.0
Laborer	141.0
Total	146.0
Grand Total	**453.0**

Employees, injured, are placed on light duty by the City's physicians for injuries sustained while working. This time varies according to the nature of the injury. It runs from a minimum of five working days and longer depending on the severity of the injury. This affects scheduling for two reasons: **1)** at times the injury requires sedentary work and the employee is sent to the City Government Center until released to full duty. **2)** the injured personnel can work but only with weight and lifting modifications. They are accommodated by putting them with a two-person crew for the extent of their modification, which usually leaves another route unattended.

BUREAU OF SANITATION

GOALS AND OBJECTIVES

2003

During 2003 management will continue to improve collection activities with increasing productivity and effectiveness. The foci will be:

1. Monitor, adjust, modify, and improve recycling and the regular sanitation routes for a more efficient operation.

2. Maintain and monitor the activities of existing and new residential and commercial accounts

3. Continue to inventory all new and existing container accounts and cross-reference them with utility records.

4. Acquire two sanitation packers for refuse collection.

5. Create a route whose schedule will be from Saturday through Wednesday, eliminating the existing Saturday rotation and providing better consistency to the accounts involved.

BUREAU OF TRAFFIC ENGINEERING

ANNUAL REPORT

2002

CITY OF HARRISBURG
COMMONWEALTH OF PENNSYLVANIA

CITY OF HARRISBURG

Bureau of Traffic Engineering
1311 S. 19th Street
Harrisburg, Pennsylvania 17104

Telephone: (717) 238-9248
Fax Number: (717) 238-9504

Honorable Stephen R. Reed ..... Mayor

Department of Public Works

James M. Close.....Director

Thomas J. Mealy.....Deputy Director

Bureau of Traffic Engineering

Bradley W. Kerstetter.....Director

x/ad page

CITY OF HARRISBURG

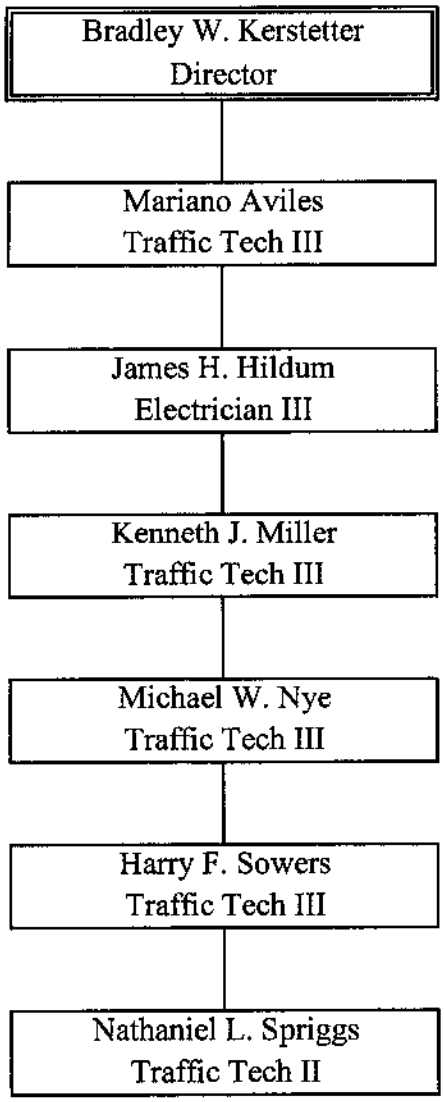
DEPARTMENT OF PUBLIC WORKS
BUREAU OF TRAFFIC ENGINEERING

2002 PERSONNEL DIRECTORY

BRADLEY W. KERSTETTER
DIRECTOR, TRAFFIC ENGINEERING

EMPLOYEE	POSITION	DATE OF EMPLOYMENT
Bradley W. Kerstetter	Director	11/05/1979
James H. Hildum	Electrician III	03/24/1980
Harry F. Sowers, Jr.	Traffic Engineer Technician III	09/13/1967
Mariano Aviles	Traffic Engineer Technician III	05/23/1985
Michael W. Nye	Traffic Engineer Technician III	08/27/1990
Kenneth J. Miller	Traffic Engineer Technician III	01/04/1979
Nathaniel Spriggs	Traffic Engineer Technician II	07/06/1997

CITY OF HARRISBURG
TRAFFIC ENGINEERING
ORGANIZATIONAL CHART



x/organizational chart 2002

TABLE OF CONTENTS

EXPENDITURE ANALYSIS DETAIL
2002 BUDGET

General Fund

0169 Traffic Engineering

Allocation Plan

PERSONNEL SERVICES		
Salaries-Mgmt	55,977	
Salaries-BU	227,035	
Overtime	11,906	
Fringe Benefits	66,737	
TOTAL		361,655
OPERATING EXPENSES		
Communications	7,350	
Professional Fees	0	
Utilities	120,750	
Insurance	0	
Rentals	18,000	
Maintenance & Repairs	4,000	
Other Contracted Services	1,100	
Supplies Expense	68,400	
TOTAL		219,600
CAPITAL OUTLAY		25,000
TOTAL APPROPRIATION		606,255

Position Control

JOB CLASSIFICATION	2002 BUDGET	ALLOCATION
Director (Traffic Engineering)	1	55,977
Total Management	1	55,977
Electrician III	1	39,254
Traffic Engineering Tech. III	4	152,182
Traffic Engineering Tech. II	1	35,599
Total Bargaining Unit	6	227,035
Overtime		11,906
FICA		22,560
Fringe Benefits		44,177
Total Fringe Benefits		66,737
TOTAL	7	361,655

THE CITY OF HARRISBURG
DEPARTMENT OF PUBLIC WORKS
BUREAU OF TRAFFIC ENGINEERING
2002 ANNUAL REPORT

GENERAL

This annual report is prepared for the purpose of furnishing information pertinent to the maintenance tasks and projects involving the Bureau of Traffic Engineering during the calendar year 2002.

The primary purpose of the Bureau is to provide maintenance and protection of pedestrian and vehicular traffic in the City of Harrisburg. However, the Bureau is involved in an array of projects, which literally involve every other department within the City to a certain degree. Our goal is to provide service to the community as well as cooperate with other City agencies to complete never-ending maintenance tasks as well as completion of new projects with a limited number of staff and financial restraints.

Appended to the end of this report are tabulations based on the statistical information gathered over the year. These tabulations are a summary of hours spent, and quantities used on our maintenance tasks and various projects.

HISTORY AND DEVELOPMENT

In 1955, the Bureau of Traffic Engineering was originally created to implement vehicular and pedestrian safety in the City of Harrisburg. Since our creation, the Bureau has been responsible for the maintenance and protection of traffic control devices signs, signals, and pavement markings within the corporate limits of Harrisburg. The Bureau has progressed with technology from the mechanical type traffic controllers to the modern-day microprocessor computerized traffic signal system. Several upgrades to the signal system have occurred over the years. The first "Master" control system was installed in the downtown area in 1958. In 1972, a new system was installed under the Traffic Operations Program To Increase Capacity and Safety (TOPICS) project. In 1991,

under the Energy Conservation and Safety (ECONS) project, a new computerized signal system was installed to replace the downtown system as well as upgrade some major corridors. At the writing of this report, we now maintain eighty-nine signalized intersections as well as seven flashing/warning signals. The new technology for the 21st Century is the use of light emitting diodes (LED's) in our signal heads. These are being used to replace the original incandescent lamp as an "energy savings" measure. Signage standards have had drastic changes as well. The Bureau has also maintained the fire and burglar alarm system as well as the street lighting system. In the last decade of the 20th Century, the Bureau started providing electrical support to the Department of Parks and Recreation.

2002 BUDGET

The 2002 budget was prepared during the month of September. Budget hearings were held with the Mayor during the month of October. Much time and effort is expended on this task as we strive to manage a more efficient operation, both from a physical aspect as well as financially. As always, the annual budget plays a significant role in our day-to-day operations. In a time of trying to complete the never-ending maintenance tasks, not to mention new projects with fewer personnel, and limited revenue funds, we strive to provide better service to the residents of this City through prudent management and innovative technology, while keeping in mind our fiscal responsibility.

ACCIDENT AND ILLNESS PREVENTION PROGRAM

Mayor Reed's Executive Order No. 2-2000 enacted the Accident and Illness Prevention Program. It required the implementation of Health and Safety Committees representing the various work areas within the City's operations. The Bureau of Traffic Engineering has become an intricate part of the Department of Public Work's Health and Safety Committee. Through this committee we have been able to evaluate accident reports and determine if the accident was preventable or non-preventable. An annual

Hazard Survey of our facility is also a direct result of this program. The bureau was in compliance with this program in 2002, promoting a safe working environment.

SAFETY TRAINING

In 2002 the bureau participated in various types of safety training. The bureau participated in an **"ELECTRICAL LOCK OUT/TAG OUT"** safety training session. Our Risk Management Bureau coordinated this training. The actual training was conducted by INSERVOCO. The bureau found this training session very informative. Common sense reminders of the practices used by electricians were highlighted as a means of doing our daily tasks and assignments. The bureau also received training for the **"RIGHT-TO KNOW"** procedures established by the City's Administration, under guidelines set forth by the Pennsylvania Department of Labor and Industry. We discussed various aspects of chemical usage as they relate to the operation of the bureau, as well as the Department. Considerable thought process was given to the usage of chemicals in the workplace. In addition, the precautions that should be taken if a leak or spill occurred in the workplace were a vital part of this training. It is the intent of this bureau to keep every employee educated on the use of chemicals in the workplace, and to follow the City's guidelines and policies on the annual "RIGHT-TO'KNOW" training procedures. The final training provided to the bureau in 2002 was **"BACKLOGIC"**. This training consisted of the proper ways to exercise your body for a stronger and more flexible back, to aid the employees while working throughout the course of the day. Safety training for the bureau is, and has always been a priority as we strive to meet the City's safety training standards, as well as provide a safe working environment for our employees.

OPENING DAY ON CITY ISLAND

Opening day on City Island has finally become a manageable task for the bureau. After years of development and expansions, this year became a maintenance task to prepare for

opening day festivities. In March, we made our annual trek to City Island in anticipation of opening day activities at Riverside Stadium. Many maintenance tasks were completed such as outline lighting being re-lamped on all the facilities on the island as well as the Walnut Street Bridge. Relamping was also completed to the scoreboard and clock at Riverside Stadium. Relamping was also completed to the scoreboard at the Skyline Sports Complex. All post lamps were relamped and cleaned in Riverside Village Park as well as Harbortown. Towpath lights were reinstalled to provide lighting to the lower walkway in Riverside Village Park. Area lighting around the perimeter of Skyline Sports Complex was completed. All accent lighting was maintained throughout the island. A lighting test was completed on the towers at Riverside Stadium as well as Skyline Sports Complex in anticipation of the upcoming baseball season. All planned maintenance was completed for opening day 2002.

DOCK STREET DAM WARNING SIGNAGE

During the month of April, in anticipation of the boating and recreation season on the river, the bureau participated in a waterway safety project. With coordination, cooperation, and guidance from Mr. Lispi, the Pennsylvania Department of Transportation, the Pennsylvania Fish and Boat Commission and Harrisburg River Rescue, warning signs were installed on the piers of the South Bridge and the banks of the Susquehanna River. This task was accomplished as a good faith effort to try to warn boaters and swimmers of the dangers of the undercurrents of the Dock Street Dam.

PRIDE OF THE SUSQUEHANNA

The bureau was again responsible for the electrical service to the Riverboat during 2002. We also provided maintenance to the electrical facilities on the dock. Electrical power was provided to the Riverboat during the off-season, while dry-docked on the south end of City Island.

WIRELESS COMMUNICATIONS

A project that originally started in 2001, continued during 2002. The field installation of the physical equipment started in 2002. A number of sites for City facilities were completed as a result of time and effort expended by the Bureau. This project will continue during 2003, as more equipment for other sites is acquired. The overall goal of this project is to provide better and more expedient communications within City government.

DECORATIVE BANNERS

As in years past, the bureau was again responsible for the installation and removal of the decorative banners in the downtown area, as well as City Island. These banners bring a lot of positive response from the public, and add color to the downtown as well as City Island. I would also like to add that decorative banners have also been added to the "streetscape" around the Whitaker Center, the Susquehanna Art Museum, and the Dauphin County buildings in the downtown area.

UNITED WAY CAMPAIGN

For the fourth year, the Bureau worked with the Capital Area Region of the "**UNITED WAY**" on their 2002 campaign. The bureau installed banners on the north 2nd Street corridor, as well as the Front Street corridor in the downtown area. This type of effort and service continues to build a stronger and more caring community for all of us.

SIGNAGE PLAN

In 2000, the Bureau began a new era in our signage maintenance operation. The City was divided into ten signage maintenance areas. Since it's inception, the Bureau has been able to complete signage areas 1 and 2. However in 2002, the Bureau has felt the loss of personnel, and fell behind in trying to complete area 3. As a matter of fact, only about a tenth of the area was completed in 2002. Our goal for 2003 is to try to get back on schedule, but as of the writing of this report unless other personnel are obtained to assist in this project, it appears this project will fall short of the initial ten-year plan.

TRAFFIC SIGNALS

In 2002 the Bureau maintained the eighty-eight signalized intersections, and the eight, flashing/warning signals. The Bureau also added **(LED'S)** to various intersections, in our energy conservation efforts. The annual PADOT mandated relamping of our intersections and flashing/warning signals were completed. A daily check of our computerized system was also done.

The Bureau also worked with PADOT on a traffic signal enhancement project at Front and Forster, and Second and Forster Streets. This work included installation of optical signals as well as LED's at these two intersections.

A major signal project in 2002 was the redesign and installation of new signals at Wildwood Park Drive, Hacc Drive, and Farm Show Drive. This project was initiated and completed to accommodate the expansion of the Pennsylvania State Farm Show Complex.

PARKS AND RECREATION

The Bureau had a very busy year in 2002 with the Department of Parks and Recreation. The Bureau is involved with this department twelve months of the year. January was a "wrap up" month from the Holiday season. The bureau was quite busy

with the removal of decorations throughout the City. The temporary electrical service was removed from Market Square, which was utilized for the **"New Year's Eve Celebration"**. Decorations were removed downtown, and the Temple banners were reinstalled around Strawberry Square. The electrical service at Swenson Plaza, which was used for the Hospice tree, was de-energized. Electrical service and lights were removed from the tree at Twenty-first and Market Streets. The electrical service was de-energized for the tree at the Route 22 by-pass and N. Seventeenth Street. The hill decorations were also removed as well as the decorations at the Broad Street Market. During the month of February, the bureau was planning and ordering materials, which were used for **"Opening Day on City Island"**. The month of March again brought our annual electrical maintenance trek to City Island. We completed maintenance to all of the facilities to be on schedule for opening day festivities. This work, included maintenance to all ground lighting, outline lighting on all the buildings as well as the Walnut Street Bridge. Maintenance to all floodlighting and area lighting was completed. Riverside Village Park was reinstalled and re-energized. All of the buildings at this facility were relamped. All lighting fixtures for the deck overlooking the **"Pride of the Susquehanna"** were relamped. The scoreboard in Skyline Sports Complex was relamped. The sound system for this facility was also tested. The scoreboard and clock in Riverside Stadium were relamped. The light towers in Riverside Stadium were scheduled for testing early in April. Other areas of maintenance within Riverside Stadium included area lighting in the concession stands and the Concourse, parking lots, and the clubhouse. March was just the start of another busy summer of providing electrical and audio support to the Department of Parks and Recreation. The month of April also brought the reinstallation of the decorative banners downtown as well as City Island. The month of April proved to be another ambitious month for the Department of Parks and Recreation. The month started with the testing of the tower lighting for Riverside Stadium as well as tower lighting for the Skyline Sports Complex. Both tests were completed with only three lamps out in both stadiums. The bureau continued to maintain the up lighting in Riverfront Park. Towpath lights were installed at Riverside Village Park for the summer season. The shore power cable for the **"Pride of the Susquehanna"** was installed, and the electrical panel on the dock was energized for the

summer season. In April we were preparing for the **2002 Arts Festival,** which will be in Riverfront Park, during the Memorial Day weekend. The month of May brought the reinstallation of the American Flags on the approaches to the Walnut Street Bridge. The response from the public was very positive. The electrical drops for the **"Shakespeare Festival at Reservoir Park"** were installed. The usual maintenance on electrical and lighting structures continued during the month of May throughout the Parks system. The month of June was another busy maintenance month on City Island and Riverfront Park. The **"2002 Greater Harrisburg Arts Festival"** was held over the Memorial Day weekend. This Festival was the largest event ever, and electrical requirements surpassed those of the past. The bureau again provided electrical assistance for this event. It's always a pleasure to work with the Arts Council, to see an event such as this succeed to new heights each passing year. Maintenance continued on the up lighting in Riverfront Park, as well as the decorative lighting on City Island, during the month of June. All of the facilities on City Island as well as the Walnut Street Bridge were relamped for the **"2002 AMERICAN MUSICFEST"** weekend. During July 4th, the bureau provided sound and electrical service support for the **"2002 AMERICAN MUSICFEST"** festival in Riverfront Park. Again, the festival was very successful for the City as well as the entire region. Maintenance continued to the up lighting in Riverfront Park. Several small maintenance items were completed at various Parks and Recreation facilities. Some maintenance projects for the Department were delayed, as they have recognized our loss of personnel. During the month of August the bureau was busy preparing for the **"2002 KIPONA CELEBRATION"**, which was held in Riverfront Park. All facilities on City Island, Riverfront Park, and the Walnut Street Bridge were maintained before the festival. The bureau started the month of September by providing electrical and sound support for the **"2002 KIPONA CELEBRATION"** over the Labor Day weekend. This event was again a great success! At the request of the State Museum, an electrical service drop was provided to the field office for the archeological expedition, in the north parking lot on City Island. All of the Christmas decorations to be utilized downtown were revamped and ready to be installed in time for the **"2002 Harrisburg Holiday Parade"** scheduled for November 23, 2002. All of the downtown decorative banners were removed, with decoration installation scheduled for the beginning of November. We were working with

the Parks Maintenance personnel on the removal of the buildings in Riverside Village Park as well as Harbortown. Christmas set pieces on City Island were installed and the bureau started to energize them before moving to the downtown decorations. The number one bureau project as well as Parks and Recreation project for the month of November was the installation of the Christmas decorations downtown as well as City Island. This work was completed on schedule for the **"2002 Holiday Parade"**, which was held on November 23rd. The bureau continued to maintain these decorations throughout the holiday season. We also provided electrical support for the **"2002 Harrisburg Holiday Parade"**. The bureau also worked with the Department of Parks and Recreation on the **"New Years Eve Celebration"** event, which was held downtown. The Bureau continued to maintain all of the holiday lighting downtown, as well as on City Island during the month of December. Intersection decorations were also installed at N. Third and Verbeke Streets, S. Thirteenth and Derry Streets, and N. Seventeenth and Derry Streets. Holiday lighting was installed on trees at N. Seventeenth Street and Arsenal Boulevard, as well as Twenty-first and Market Streets. The bureau also provided electrical drops and electrical support for the **"Hospice Tree Lighting Ceremony"** at Swenson Plaza. The bureau provided electrical support for the **"New Year's Eve Celebration"** in Market Square. The year 2002 was another busy year with an array of special events involving the Department of Parks and Recreation. I would also like to thank the Department of Parks and Recreation for all of their assistance to our bureau throughout the year.

DEPARTMENT OF PUBLIC WORKS
BUREAU OF TRAFFIC ENGINEERING

ANNUAL REPORT FOR 2002

No	Office/Other	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Administrative Duties (Hrs.)	155	118	110	85	88	70	126	113	73	120	81	101	1240
2	Shop Work (Hrs.)	28	32	45	56	28	22	5	91	64	24	36	37	468
3	Install & Rrepair Radios (Hrs.)	6	2		5		2	1	1		1	1	2	21
4	PA-One-Call Notifications	218	233	125	258	214	227	156	225	295	236	172	162	2521
5	PA-One-Call Locates	7	4	2	6	17	6	24	19	15	14	12	1	127
6	Vehicle Preventative Maintenance (Hrs.)	8	12	14	18	6	12		6	8	10	14	16	124
7	Building Maintenance (Hrs.)			3	1				2	7	3	16	6	38
8	Snow Removal (Hrs.)												33	33
9	Public Works Misc. (Hrs.)	182	71	14	19	19	5		4	42	61	8	15	440
10	Safety Committee (Hrs.)								4	10	12		4	30

No	Traffic Signals	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Emergancy Call Outs	5	4	7	4	9	6	1	4	5	4	2	2	53
2	Preventive Maintenance (Hrs.)												4	4
3	Lamp Replacements	2	2	2	2	8	4		4	4			3	31
4	Street Repairs	8	1	6	16	15	12	9	10	10	22	13	14	136
5	Cable Troubleshooting (Hrs.)													0
6	Bench Repairs (Hrs.)		1	6	12	1	6	22		3	16		2	69
7	Signal Programming (Hrs.)								2		2	1		5
8	Relamped Intersections (Hrs.)									116	128			244
9	Miscella;nieous (Hrs.)	9	6	1	31	5	5	4	11	17	27	4	17	137
10														0

No	Street Lights	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Repairs Done on the Street (Hrs.)													0
2	Bench Repairs (Hrs.)													0
3	Lamp Replacements													0

No	Special Projects	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Security Alert Signs						73		12					85
2														0

DEPARTMENT OF PUBLEC WORKS
BUREAU OF TRAFFIC ENGINEERING

ANNUAL REPORT FOR 2002

No	Signs	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Fabricated	94	145	186	155	65	115	43	78	28	95	6	43	1053
2	Repaired	11	66	125	239	28	11	20	18	13	17	9	10	567
3	Installed	166	124	99	111	246	201	231	374	174	156	13	66	1961
4	Replaced	17	85	47	54	58	56	13	11	11	129	9	4	494
5	Removed	21	116	72	29	52	19	10	30	19	18	12	25	423
6	Poles Used	56	53	52	52	32	41	21	13	14	25	18	27	404
7	Night Shift (Hrs.)													0

No	Type of Signs Installed	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Stop Signs	22	20	5	6	6	7	6	3	4	5		2	86
2	Stop Ahead Signs	2												2
3	One Way Signs	15	8	9	2	4	5	10		1	12		4	70
4	No Parking Any Time Signs	7	17	4	16	12	9	34	10	3	3			115
5	Speed Limit Signs		1	1			21				3			26
6	Handicap Parking Signs	18	16	8	14	146	15	5	30	11	10	2	14	289
7	Loading Zone Signs		3		2					5				10
8	Street Cleaning Signs	3	17	23	3	35	6	3	2	1	167	3	4	267
9	Street Name Signs	96	87	92	84	78	58	24	4		60	4	32	619
10	Snow Emergency Signs										1			1
11	Drug Signs				1									1
12	Adopt-A-Block Signs (Lot)				14									14
13	Do Not Enter Signs			1	1	1		1		2				6
14	Permit Parking Signs				6			1						7
15	Watch Children Signs	2	1			1	1			2	4			11
16	Yield Signs													0
17	Right /Left Lane Must Turn Signs								1					1
18	No Right / Left Turn Signs	2			2		1							5
19	Play Ground Signs													0
20	Slow Signs													0
21	School Crossing Signs													0
22	School Signs													0
23	All Traffic Must Turn Right / Left													0
24	Crime Watch Signs									13	1			14
25	Signs for Parks & Rec.		19						2	2	1			24
26	Signs for Public Works													0
27	Special Project Signs	2			8									10
28	Truck Signs							1			1			2
29	3-Way / 4 Way Signs	7												7
30	Ped Signs		1					3				4		8
31	Handicap Fine Signs				6		120	142	333	140	101		16	858
32	Miscellaneous Signs			1		6	6							13

DEPARTMENT OF PUBLEC WORKS
BUREAU OF TRAFFIC ENGINEERING

ANNUAL REPORT FOR 2002

No	Miscellaneous Dept. Assistence	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Public Works Office (Hrs.)								4		3			7
2	City Service (Hrs.)							27		15	5			47
3	VMC (Hrs.)							1		5	3			9
4	Sanitation (Hrs.)									2				2
5	Water (Hrs.)								1					1
6	Steam Plant (Hrs.)													0
7	Sewage (Hrs.)							3						3
8	City Hall Building Maintenance (Hrs.)							1					1	2
9	Data Processing (Hrs.)		72	15	11	37	36	21	12	24	2	21	45	296
10	Comm Center Alarm System (Hrs.)		2			5		4	16	19	6	14		66
11	Fire Brueau (Hrs.)								10				3	13
12	Fire Museum (Hrs.)													0
13	National Civil War Museum (Hrs.)													0
14	Engineering (Hrs.)							8	5	4				17
15														0
16														0
17														0
18														0
19														0
20														0
21														0
22														0
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28														0
29														0
30														0
31														0
32														0
33														0
34														0
35														0
36														0
37														0

DEPARTMENT OF PUBLIC WORKS
BUREAU OF TRAFFIC ENGINEERING

ANNUAL REPORT FOR 2002

No	Parks And Recreation	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	River Front Park (Hrs.)				61	79	25	7	16	3				191
2	City Island (Hrs.)	15	19	235	242	102	71	31	84	15	15	69	18	916
3	Reservoir Park (Hrs.)	2			2	6	1	10	16		14	5		56
4	Kunkle Plaza (Hrs.)								10					10
5	Walnut Street Bridge (Hrs.)				53		3	20	27				6	109
6	Banner Installation / Removal (Hrs.)				43	41	20	17	2	20	2	20		165
7	Accent Lighting (Hrs.)								50				21	71
8	Christmas Decorations (Hrs.)	82	4								96	388	71	641
9	Miscellaneous (Hrs.)	49					10			2	2			63
10	Sunken Gardens / Italian Lake (Hrs.)					6	2	2	9	10				29
11	Pool # 1 & 2 (Hrs.)				2		29	1		4				36
12	Various Parks (Hrs.)			8					3	8				19
13	Special Events (Hrs.)							245	155	188	3	6	23	620

No	Traffic Pavement Markings-Inlaid	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Stop Bars (LF)													0
2	Lane Arrows (EA.)													0
3	Crosswalks (LF)													0
4	Long Line (LF)													0

No	Traffic Pavement Markings-Thermoplastic	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Stop Bars (LF) 12"													0
2	Stop Bars/Crosswalks (LF) 24"							292		367				659
3	Lane Arrows (LF)													0
4	Crosswalks (LF) 6"													0
5	Crosswalks (LF) 8"													0
6	Long Line (LF)													0

No	Traffic Pavement Markings-Paint	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Parking Stalls (LF)													0

CITY OF HARRISBURG
DEPARTMENT OF PUBLIC WORKS
BUREAU OF TRAFFIC ENGINEERING

2003 GOALS AND OBJECTIVES

- Continue with installation of field components for the wireless communications system.
- Interdepartmental cooperation and support to the Department of Parks and Recreation for electrical needs for special events.
- Complete the maintenance tasks for **"Opening Day on City Island"**.
- Maintain all electrical facilities in the Park System.
- Complete sign replacement in **Sign Maintenance Areas 3 & 4**.
- Install more **LED** traffic signals at intersections.
- Annual relamping of the signalized intersections and f/w signals.
- Acquire access to the City's GIS system for the Traffic Shop.

BUREAU OF VEHICLE MANAGEMENT

ANNUAL REPORT

2002

CITY OF HARRISBURG
COMMONWEALTH OF PENNSYLVANIA

CITY OF HARRISBURG

Bureau of Vehicle Management
1690 South 19th Street
Harrisburg, Pennsylvania 17104

Telephone (717) 236-4728
Fax Number (717) 236-8891

Honorable Stephen R. Reed ..... Mayor

Department of Public Works

James M. Close ..... Director

Bureau of Vehicle Management

George L. Schwarz ..... Director

CITY OF HARRISBURG

BUREAU OF VEHICLE MANAGEMENT

2002

TABLE OF CONTENTS

Page Number

CITY OF HARRISBURG

BUREAU OF VEHICLE MANAGEMENT ANNUAL REPORT

2002

LIST OF EXHIBITS / FIGURES

HISTORICAL INFORMATION

BUREAU OF VHICLE (MAINTENANCE) MANAGEMENT

The first known "Vehicle Repair Facility", for the City, was located in close proximity to the "Farm Show Complex" on North Cameron Street. It housed either three or four mechanics having a primary responsibility to maintain and repair approximately twelve sanitation packers. The "Lead Mechanic's name was Mr. Cassell.

In the early 1970's, the, now known "Public Works Complex", was built. Primarily, the complex was erected to house the Incinerator and Sanitation Bureaus, with the mechanics to support operations. The complex would later be expanded to include the Bureau of City Services, the now known Traffic Bureau, and the Bureaus' of Shade Tree and Water. While some of these Offices and operations have since been relocated elsewhere in the City, the Vehicle Maintenance Center remains.

The complement of three or four mechanics that were relocated to this location, from the North Cameron Street facility, rapidly increased in number. The increase in the number of employees prompted the responsibility of maintaining more of the City's vehicles and equipment. At one time the Bureau's organization included twenty-three employees. The organization was comprised of; a body shop with two employees, a refueling site with an employee to dispense fuel and wash vehicles, three custodians to care for the facility / grounds, two parts persons, three administrative / clerical staff and about twelve mechanics to maintain the fleet of unknown size (estimated at two hundred and fifty pieces). The management staff included a Bureau Director, Mr. Eugene Durham, and a Chief of Operations, Mr. Roger Roden and the Bureau was then known as the Bureau of Vehicle Maintenance. The total complement of employees peeked at about twenty-five in mid to late 1970's.

In 1989,the City fleet was comprised of approximately two hundred and seventy seven known pieces of equipment. The Bureau had an employee complement, at that time, of sixteen. The Bureau's organization included; a body shop with two employees, one parts person, one administrative assistant, one laborer, eleven mechanics, and one management staff.

In 2001, and as it is today, the fleet consists of approximately four hundred and sixty pieces of equipment and continues to grow. It is supported with a staff of eleven. The Bureau is divided into three divisions, and a management staff of one. The breakdown of these areas will be documented in the "General" section of this report.

In December of 2002, and by Mayoral Executive Order #5, two major changes in the organization took place. The first, and the one which will impact most on operations, is that total fleet management control was delegated to this Bureau. The second, recognizing the bureau is responsible for more than just maintenance, was the formal name for the bureau was changed from the Bureau of Vehicle Maintenance to The Bureau of Vehicle Management.

CITY OF HARRISBURG

BUREAU OF VEHICLE MANAGEMENT

ACCOMPLISHMENT REPORT

2002

GENERAL

This annual report is prepared for the purpose of furnishing information and statistics relative to the operations of the Bureau of Vehicle Management for the calendar / fiscal year 2002.

The Bureau is now directly responsible for the management of the City's vehicle and equipment fleet. This includes total fleet management, inclusive of preparing specifications, purchasing, equipment maintenance and repair, and disposal when it is determined that a unit is no longer serviceable. While on the surface this may appear to be a simple task, it is not. The logistics of such an undertaking requires dedicated, highly technical, and knowledgeable individuals able to perform all the related functions in this multi-faceted operation. Keeping current with the ever-changing vehicles, their components together with governmental mandates are some of the several major challenges facing all involved.

The Bureau, itself, is divided into three separate divisions. They are the Administrative Division, the Procurement and Supply Division and the Maintenance and Repair Division. The Maintenance and Repair Division, unlike the other two divisions, is separated into three units. They are; the Light Duty Unit staffed with seven employees, the Heavy Duty Unit staffed with two employees, and the Sheet Metal Unit staffed with two employees. The Procurement and Supply Unit and the Administrative Divisions are each staffed with one employee. As the names for these units imply, each unit is primarily responsible for the repairs to vehicles and related equipment. This however, should not indicate that each operates independent of the others. They are specifically organized to interact with each other and share the total workload, specializing in the type of work as their name implies.

While the Bureau continues to function efficiently, there is an ever-increasing amount of work contracted to outside vendors. At one time, the Bureau performed ninety five to ninety eight percent of all work in-house. With the ever-aging and ever-increasing size of the fleet and the ever-decreasing size of the support staff, this number has been reduced to seventy-five to eighty percent. It has to be understood that at one time, 1988 in fact, the fleet consisted of approximately 275 pieces of equipment and had a complement of sixteen union employees. Today the fleet consists of over four hundred and fifty pieces of equipment and currently has a compliment of eleven union employees. The budget in 1988, was $955,128.00, today it is in excess of $1.5 million dollars.

2002 IN REVIEW (continued)

With these two major changes, the Bureau will play an intricate role in reviewing the overall operation of the fleet. This includes but is not limited to operational responsibility, standardization, rotation, life cycle costing, fleet reduction (without compromising agency operations), improved inventory control standards and reviewer and coordinator for all motorized / non-motorized acquisitions to name a few. If, and when, fleet deficiencies are recognized, they will be communicated, together with the corrective action, which is to be implemented by management personnel.

OPERATIONS MANUAL

The compiling, approval and publishing of an "OPERATIONS MANUAL" was a priority for 2002. When complete, the manual will provide direction to all City entities on the procedures, which need to be followed for the proper, uniformed, operation of the fleet. It will place the appropriate responsibility with the appropriate individuals. It is sure to have a positive impact on the operations and take some of the questions out of any fleet operation formula. This objective became ever more important with Executive Order Number 5. To date, while the manual is not completed for publication, it is prepared for the appropriate review. This process will be completed in the near future with the objective of 2003 to have it in published form.

PRODUCTION

The chart enclosed denotes the production for the Bureau for the calendar / fiscal year 2002. The chart also identifies historical production data, for a five-year period. It provides a comparison of how production has changed for the same period. It may appear the over all production numbers are gradually declining, this is a fallacy however since as the fleet continues to age the number of repair orders may decrease but the total number of hours exhausted repairing a vehicle increases. The lower numbers may, on the surface, be perceived as employees producing less. This is not the case. In addition, the lower numbers are the result of the continuing reduction in employee compliment that performs the duties of maintenance and repairs to the fleet.

The additional workload can, and will be, dealt with adopting, one or the combination of, any of following four methods. These methods are: a.) Increase the production abilities of the remaining employees, b.) Increase the number of overtime hours, or, c.) Increase the amount of work that is contracted to outside vendors, d.) Reduce the size of the fleet. This Bureau, will attempt to combine portions of all three areas.

BUREAU AUTOMATION

A major, and probably one of the most important, programs the Bureau aggressively pursued in 2002 is "total automation". It was not too long ago the Bureau received its first computer. Subsequently, the inventory of the fleet, its assignment and other very basic information about each piece was placed in a database. While this alone was a major accomplishment, the next step had to be complete automation.

2002 IN REVIEW

Like the past three years, during the calendar/fiscal year 2002, not only did the weather cooperate with the operations offering yet a mild winter; the activities, based on the given employee complement, at the Bureau were also productive. The progress made by the Bureau is briefly reviewed in the following articles.

OPERATIONAL IMPROVEMENTS

"City and its fleet manager get top International Award"

Sound familiar? Over the past two years, and as documented in each of the annual reports a reference was made to a new vehicle and equipment purchasing procedure. The name adopted for this program is the PACC (PA Capital City) Automotive and Equipment Contracts. Briefly, the old purchasing procedure required a municipality to publicly bid a specification each and every time a vehicle or piece of equipment was required. The new process implemented only required the bidding procedure to be completed once a year, maximum. Simply stated, rather than writing the specification technically detailing the vehicle required, a specification was prepared outlining the parameters of exactly how each unit was to be delivered. For bidding purposes, the vehicles and trucks were classified in several categories. The manufacturers' dealerships were then required to quote only the profit margin required to deliver a unit to the City, and as described within the specified parameters. The dealership's quote was in the form of a dollar mark-up over the dealer's true and actual cost. Any concessions, incentives, rebates and other discounts were awarded to the purchasing entity. Contracts were then entered into with each of the dealerships quoting the smallest profit margin.

Developed and administered by the City, the new program has saved thousands of dollars for participating municipalities. In fact, the Commonwealth was so impressed with the process they too changed their purchase procedure for light duty vehicles, fashioning their new program directly from the one developed and adopted by the City.

The new State's purchasing procedure is now in place for light duty vehicles and equipment and is semi successful. The Commonwealths procedure however, contains a major flaw. That is, the manufacturer's concession program is returned as profit to the delivering dealership, unlike the City's program that returns any manufacturer's offered concessions to the purchasing entity resulting in a reduced acquisition price, affording lower costs. In an effort to continue to improve, the Commonwealth, at one time, was reviewing their purchasing process for medium and heavy-duty vehicles. Consideration was being given to change their method of purchasing to a program similar to the City's. This effort is currently "on-hold" as there may be a possibility the Commonwealth will purchase from the City's contracts. At this point, however, the possibility, of change, is also in limbo and believed to be caused by the change in administration. More information on the advancement on this program will be forthcoming in future reports.

2002 IN REVIEW (continued)

Interesting enough, this review is being caused by the fact that purchases from the PACC contracts are less expensive than those made from the Commonwealth's contracts. Further tipping the scales of interest to the PACC contracts is the fact it allows for a municipality to purchase the exact vehicle needed for the operations equipped to compliment the operations rather than purchasing something specified by another, which falls short of the operational needs.

Over the past year, presentations, to nine groups, have been made on the purchasing program and it is estimated that over 350 individuals took information back to their respective municipalities on the new and simplified purchase procedure.

During May however, the City received, in Toronto, Canada, international recognition for the program's concept and the resulting success. In a meeting, with an approximate attendance of five hundred including representation from the United States and other countries, an award known as the Larry Goill Award for Innovative Ideas was presented by the National Association of Fleet Administrators, to the City and I in recognition for the program.

To briefly describe the programs success, and as of this writing nearly two hundred and fifty entities, including the Commonwealth of Pennsylvania, State of Maryland and town of Fredrick, have used the City's PACC Contracts for their purchases. It is estimated that purchases using this contract are in excess of $30 million dollars with the closing of this calendar / fiscal year. The growth of the program since the writing of the 2001 Annual Report is over seven fold. It is estimated that the program is responsible for a savings, to the participating entities, of ten to fifteen percent. Easily calculated the program is responsible for the saving of taxpayer's monies ranging from $3.0 to $4.5 million dollars. This is quite a feat for a City, of our size, and it should be noted that the program has not slowed, in fact, purchases from the program continue to grow at a phenomenal rate.

FLEET MANAGEMENT

In December of 2002, and with Executive Order Number 5, the Mayor placed total fleet responsibility with this Bureau. Recognizing the fleet and the expenses of its operation has continued to grow over the years, such that today the City has the largest fleet in its history, the Mayor, with this Executive Order, made a command decision to put a program in place to monitor and control the overall fleet activities.

It is the Mayor's intentions to instill budgetary constraints and prudent management practices for a more efficient system of fleet purchasing, maintenance and management and crafted for the purpose of reducing costs associated with all aspects of vehicle inventory control.

In addition to this formal delegation of authority, and recognizing the expanded role the Bureau will interact with total responsibility, the Bureau's name was formally changed to the Bureau of Vehicle Management, rather than the old fashioned title of Bureau of Vehicle Maintenance.

2002 IN REVIEW (continued)

The program should be inclusive of tracking a vehicle's age, mileage accrual, residual value, and the cost of operation per mile. It should also provide an inventory program that will track parts movement including cost, vendor, and obsolescence, if any. In addition, a work order program will enable production and employee movement will be able to be monitored. Unacceptable or inconsistent activities, such as, lack of mileage accrual, paying for warranty repairs (on the vehicle itself or on a part installed), and repeat repairs will be easily recognized.

The objective has now begun to become reality. That is correct, through a joint effort with the Director of Data Processing a "main-frame" program has been installed. The program categorized under the DCIT program now is in place. As of this writing, input for approximately forty percent of the fleet with "Fleet Management Type" information is installed. This small step is a major accomplishment for the proper management of fleet operations.

SNOW OPERATIONS TRAINING

Again, in 2002 the Director of Public Works and this Office completed a program of Snow Operations Training. The program included a review of topics previously addressed and new topics determined to be of importance. This training is the one and only medium available that this Department and Bureau has to disseminate information to employees, involved in the snow operation, on common and new techniques and procedures. Program such as this should be expanded throughout the City for overall improvement in operations.

OBJECTIVITY PURSUING 2003

There are several objectives that will be pursued for the calendar/fiscal year of 2003. These will be addressed in the following paragraphs.

FLEET MANAGEMENT

With the Mayoral Executive Order Number 5, the Fleet Management effort now is in the hands of this Bureau. One of the first objectives will be to compile an outline of what programs can be adopted to reduce the budgetary expenses associated with the operation of the fleet. This effort in its own will be a large undertaking, since any program considered must able to be implemented Citywide, while not compromise any agencies existing operations.

BUREAU AUTOMATION

The beginning of the Bureau to become "main frame" automated has just begun. With input of approximately forty percent of statistical vehicle information loaded into the mainframe program, the following steps, continuing the project, will be undertaken as an objective for 2003;

a. 100% of vehicle statistics will be program loaded,
b. Designing of an inventory system for immediate tracking of parts and supplies inventory.
c. 100% of parts and supplies inventoried in program loaded.

FACILITY REORGANIZATION

In the past several annual reports reference has been made to the continued growth of the fleet. Together with the increase in number of vehicles and equipment the parts and supply inventory has also increased. Because there has never been any formal inventory tracking program many times duplicate inventory would be purchased, shelved and forgotten about. Hence, when an item was needed for a repair, and if the prior purchase was overlooked, another, unnecessary item was acquired. Because of this problem, a major reorganization of the Procurement and Supply Division will be completed. Along with the implementation of above, automated, inventory system, improving the inventory accountability, the parts room and three different rooms (warehouses) will be reorganized. This program will result in improved floor plans, and taking into consideration the type size and movement of the inventoried item.

OPERATIONS MANUAL

The last objective for 2003, will be the final approval and publishing of an operational manual. While at the close of calendar / fiscal year 2002, the manual was approved, the simple approval by the Administration will provide a manual outlining the responsible areas and their responsibilities in the day to day operation of the City's fleet.

VEHICLE MAINTENANCE AND REPAIR OPERATIONS

	1997	1998	1999	2000	2001	2002	01 vs. 02
Equipment Repaired (Units)							
Trucks	1681	1450	1483	1430	1386	935	-33%
Passenger	1285	1387	1273	1070	960	803	-16%
Heavy Equipment	96	193	194	179	251	579	+57%
Misc. Equipment	184	138	104	163	151	82	-46%
Total Units	3246	3168	3057	2842	2748	2399	-13%
Equipment Preventive Maintenance (Not calculated in above repairs)	576	573	553	437	498	476	-4%
Fuels Dispensed							
Gasoline	149,858	154,540	146,652	143,571	157,601	189,615	+17%
Diesel	150,396	173,283	183,851	182,211	186,131	289688	+64%
Total Gallons	300,254	327,823	330,503	325,782	343,732	379,303	+10%
Invoicing							
Utilities	$111,857	$146,856	$131,289	146,223	144,227	$155,719	+7%
General Fund	$441,593	$424,690	$433,415	461,913	502,425	$475,900	-5%
Others			1,135	1,197	660	1,193	-5%
Total	$553,450	$571,790	$565,839	$609,333	$647,311	$632,812	-2%

In excess of 730 hours of overtime were exhausted during the fiscal year.

An average monthly backlog of 38 work orders existed for the last 6 months of the year.

BUREAU OF VEHICLE MANAGEMENT

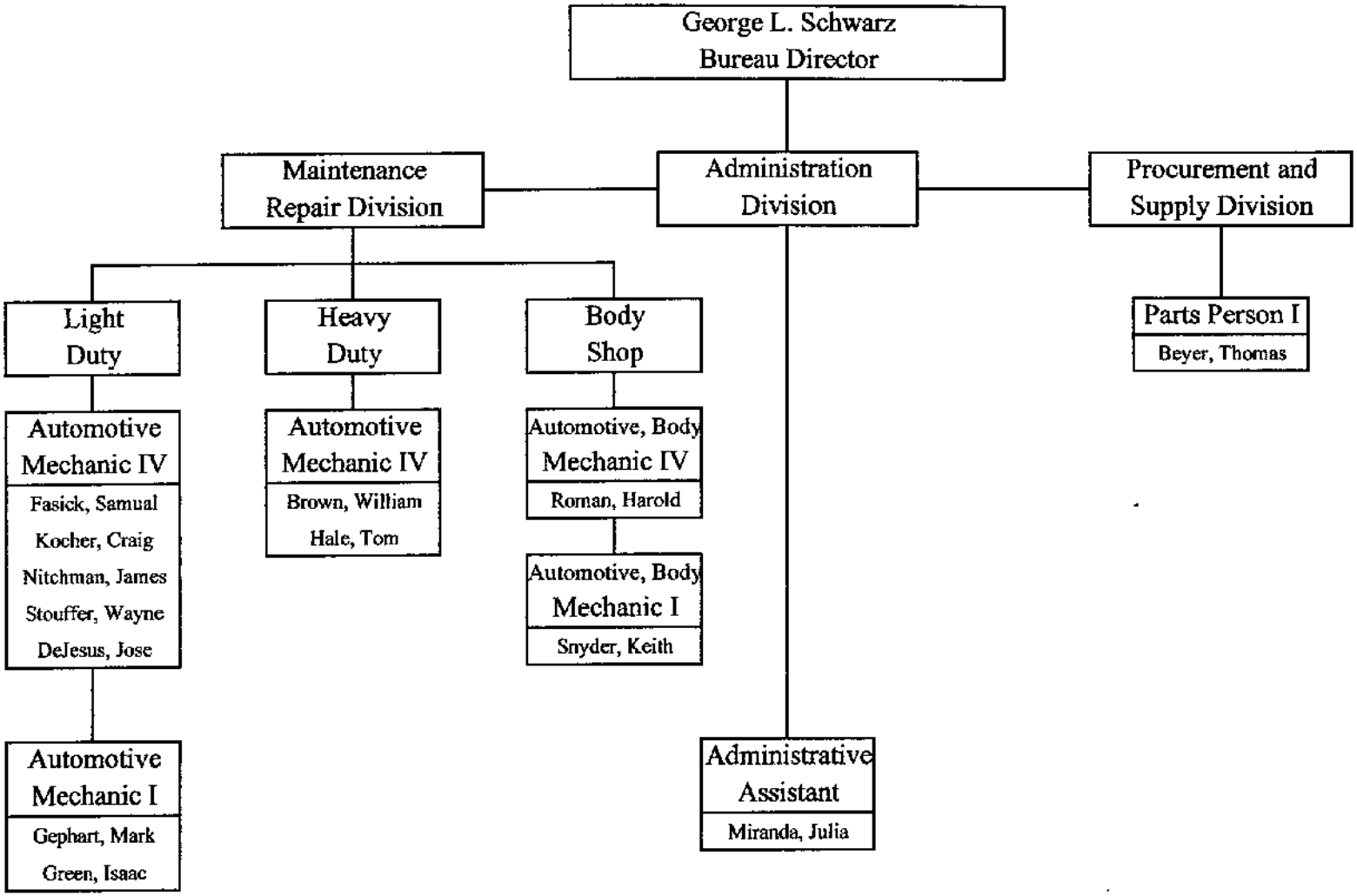
GEORGE L. SCHWARZ, DIRECOR

2002 EMPLOYER ROSTER

BEYER, THOMAS	**PARTS PERSON I**	**04/04/02**
BROWN, WILLIAM	**AUTOMOTIVE MECHANIC IV**	**04/17/80**
DEJESUS, JOSE	**AUTOMOTIVE MECHANIC IV**	**07/20/88**
FASICK, SAMUAL	**AUTOMOTIVE MECHANIC IV**	**11/13/72**
GEPHART, MARK	**AUTOMOTIVE MECHANIC I**	**08/03/92**
HALE, TOM	**AUTOMOTIVE MECHANIC IV**	**06/05/89**
KOCHER, CRAIG	**AUTOMOTIVE MECHANIC IV**	**03/03/75**
MIRANDA, JULIA	**ADMINISTRATIVE ASSISTANT**	**03/26/79**
NITCHMAN, JAMES	**AUTOMOTIVE MECHANIC IV**	**04/14/75**
ROMAN, HAROLD	**AUTOMOTIVE BODY MECHANIC IV**	**07/06/01**
SNYDER, KEITH	**AUTOMOTIVE BODY MECHANIC I**	**04/13/98**
STOUFFER, WAYNE	**AUTOMOTIVE MECHANIC IV**	**08/10/87**

City Of Harrisburg
Bureau of Vehicle Management

2002 Organizational Chart



2001 BUDGET

PERSONNEL – SERVICES		
Salaries – Mgmt.	51,883	
Salaries - BU	416,492	
Overtime	16,455	
Fringe Benefits	112,882	
TOTAL		597,652
Communications	2,850	
Professional Fees	0	
Utilities	20,400	
Insurance	0	
Rentals	10,100	
Maintenance & Repairs	103,300	
Other Services	10,200	
Supplies Expenses	751,800	
		898,650
CAPITAL OUTLAY		0
TOTAL APPROPIATION		1,496,302

JOB CLASSIFICATION	BUDGET	ALLOCATION
Director (VMC)	1	51,883
TOTAL MANAGEMENT	1	51,883
Auto Body Mechanic	1	39,154
Auto Mechanic IV	7	274,678
Parts Person II	1	35,699
Auto Mechanic II	1	34,556
Auto Mechanic I	1	32,405
Total Bargaining Unit	11	416,492
Overtime		16,455
FICA		37,090
Fringe Benefits		75,732
Total Fringe Benefits		112,822
TOTAL	12	597,652

BUREAU OF WATER

ANNUAL REPORT

2002

CITY OF HARRISBURG
COMMONWEALTH OF PENNSYLVANIA

CITY OF HARRISBURG

Dr. Robert E. Young Water Services Center
100 Pine Drive
Harrisburg, Pennsylvania 17103-1260

Telephone: (717) 238-8725
Fax Number: (717) 238-9168

Honorable Stephen R. Reed ..... Mayor

Department of Public Works

James M. Close ..... Director
Thomas J. Mealy ..... Deputy Director

Bureau of Water

Daniel E. Standish ..... Director

David E. Eisenberger II.....Distribution Superintendent
Chad E. Bingaman..... DeHart Superintendent / Watershed Manager
I. Gregg Haney, Jr.....Operations / Maintenance Superintendent
Jack R. Stabley, Jr. ..... Water Quality Administrator
Raly T. A. Bey ..... Operations Supervisor

THE HARRISBURG AUTHORITY

One Keystone Plaza, Suite 104
Front And Market Streets
Harrisburg, Pennsylvania 17101

Telephone: (717) 232-3777
Fax Number: (717) 232-8590

Trent Hargrove, Esq ..... Chairman
John J. Keller ..... Vice Chairman
Leonard L. House ..... Secretary/Treasurer
Suzanne R. Colacicco ..... Member
Fred Clark ..... Member

Thomas J. Mealy ..... Executive Director

CITY OF HARRISBURG

BUREAU OF WATER

2002

TABLE OF CONTENTS

Page No.

CITY OF HARRISBURG

BUREAU OF WATER

2002

LIST OF EXHIBITS

CITY OF HARRISBURG

BUREAU OF WATER

2002

GENERAL

The purpose of this report is to furnish an overview of the operation and maintenance of the Harrisburg Water System during calendar year 2002. The function of this system is to provide, on demand, sufficient potable water to a service area, which includes the City of Harrisburg, portions of the Borough of Penbrook, Susquehanna, Swatara and Lower Paxton Townships.

During calendar year 2002, the water system provided service that met the requirements of the Federal Safe Drinking Water Act to approximately 23,000 service accounts or an estimated 66,000 people on a daily basis.

HISTORY AND DEVELOPMENT

The origin of the present water-works dates back to 1839, when the Commonwealth granted Harrisburg the authority to take water from the Susquehanna River for supplying its 20,000 residents. By 1843, the original water house was completed along the river near Front and State Streets. A reservoir in the vicinity of Sixth and North Streets was utilized, and a pipe line distribution system gradually developed in the central part of the town. Direct pumping was used for many years thereafter, without the use of filtering methods or chemical controls.

In 1860, Harrisburg was incorporated as a Third Class City, and rapid expansion into the Hill and Uptown districts required larger facilities. An open reservoir was completed in 1873, in Reservoir Park, which provided a gravity fed system by utilizing the high elevation of the park. The original Pumping Station was built in 1874 at Front and North Streets for the purpose of mechanically pumping water into the new reservoir. By 1903, the Pumping Station had to be re-equipped with new steam boilers, engines, and pumps, capable of meeting the demands of more than 50,000 residents. The Filter Plant, on City Island, was completed in 1904, to provide a filtering system with chemical treatment before being pumped into the reservoir.

In 1924, a number of improvements were completed for the extension and enlargement of the water system at a cost of $1,600,000. The capacity of the Filter Plant was increased to twice its original size; two turbine pumping units and boiler equipment were installed at the Pumping Station; a new 36" force main was laid along North Street from the Pumping Station to Sixth Street and continued to Fifteenth and State Streets; a new 30,000,000 gallon capacity reservoir, completely covered with reinforced concrete, earth, and grass, was constructed in Reservoir Park. This third and largest reservoir was required to supply areas expanding into more distant and higher elevated sections in the Hill district of the City.

In 1936, Harrisburg survived one of its most devastating floods in its' history. The Susquehanna River reached more than 32 feet, inundated City Island, and the southern section of the City. The entire water system was out of service for a week and emergency measures were required to supply the residents with limited water brought in by tank trucks.

Shortly thereafter, the development of a new mountain supply in Rush Township along Clark Creek, about 20 miles northeast of the City, was undertaken by City Council, with the vital assistance of federal and state governments. The William T. DeHart Dam was completed on July 1, 1940 and impounded water flowing from Clark Creek and 23 smaller tributaries, producing a body of water with a capacity of 5,260,000,000 gallons that extended four and a half miles upstream of the dam. The reservoir collected water from a 21.62 square mile drainage area consisting of mostly forestland between the ridges of Peter's and Stony Mountains. Raw-treated mountain water was first delivered to the City during the latter part of the same year. This enormous undertaking was the largest and most successful project in the history of the City's water system. The cost was more than four million dollars, but not only gave the City's residents a natural supply of fresh water, but also prevented any possible ravage to the system from floods.

Until 1948, it was advisable to augment the mountain supply with river water through the old system because the Clark Valley supply was not entirely of proper quality. On January 23, 1948, the old system was discontinued entirely; the Pumping Station and Filter Plant were placed on a standby basis, but was maintained operable in the event of emergency.

In 1954 an additional 4 feet was added to the DeHart spillway wall increasing its storage capacity to six billion-gallons. The DeHart Reservoir currently has an overflow elevation of 644 feet and an approximate dependable yield of 10.5 million gallons per day.

From 1948, the City Island Filtration Plant functioned as a reserve source of water for the City. The facility suffered considerable damage during the flood of 1972, and all filtration operations ceased. It stood vacant until 1987, when for safety reasons it was razed.

During 1987 and 1988, a hypalon lining was installed covering the 20 million gallon finished water reservoir.

In 1990 the sale and transfer of ownership of the water system to The Harrisburg Authority with the City remaining as the managing agent took place. Ground breaking for the Dr. Robert E. Young Water Services Center and River Front Pump Station took place in October of that same year. These projects were completed on July 19, 1994 when the Dr. Robert E. Young Water Services Center was placed in operation.

The DeHart Reservoir's Control Building provides flow metering and the capability of adding chlorine, soda ash, and potassium permanganate as required to the raw water prior to its conveyance by gravity through a 42-inch diameter transmission main to the Dr. Robert E. Young Water Services Center in Susquehanna Township.

The Susquehanna River is the water system's secondary water supply. The system's river intake consists of a screened intake structure and a 36-inch diameter pipe. Raw water flows by gravity through the river intake structure to the Susquehanna River Pump Station's intake well where it is then pumped, using three 400 HP vertical turbine pumps rated at 7,000-GPM each, to the Dr. Robert E. Young Water Services Center. The capability exists to add potassium permanganate to the raw water prior to treatment, if this should be required.

The transmission system includes 20 miles of 42-inch diameter steel-reinforced concrete pipe, which conveys water by gravity from the DeHart Reservoir in Clark's Valley to the City of Harrisburg. The 42-inch diameter transmission main reduces to a 24 inch diameter pre-stressed concrete cylinder pipe at Division and 7th Streets before it reaches the influent of the Dr. Robert E. Young Water Services Center.

The Dr. Robert E. Young Water Services Center has two parallel treatment process trains with a total design flow capacity of 20 million gallons per day (MGD). The process trains include two raw water flow meters, four three-stage paddle wheel flocculators, four rectangular clarifiers, eight multimedia gravity filters with an air backwash system, two 9,400 GPM backwash pumps, and two finished water flow meters. The Dr. Robert E. Young Water Services Center's treatment capabilities include the chemical addition of carbon, alum, soda ash, phosphate, hydrated lime, caustic soda, ammonia, zinc orthophosphate, and sodium silicofluoride. Disinfection is achieved with chlorine and sodium chlorite addition. Four finished water pumps at the Dr. Robert E. Young Water Services Center are used to transfer finished water to the Upper and Lower Reservoirs located at Reservoir Park for eventual distribution throughout the water system.

The water system uses two reservoirs to store finished water for distribution throughout its service area. The reservoirs are located at Reservoir Park and serve two different pressure zones. In 2000 the Lower Reservoir was taken out-of-service due to structural failure on the west wall. A project commenced in 2001 to replace the old reservoir with two 6,000,000 gallon tanks. The new Lower Reservoir tanks were placed in service on April 1st of 2002 and serve consumers who are located west of the vicinity of 18th Street within the City of Harrisburg.

The Upper Reservoir serves the water system's high-pressure zone and is a reinforced concrete underground reservoir. The basin has a storage capacity of 28 million-gallons. The Upper Reservoir supplies water to consumers located east of the vicinity of 18th Street within the City of Harrisburg and in portions of Susquehanna Township, the Borough of Penbrook, Swatara Township, and Lower Paxton Township.

In June of 2002 an energy conservation project was completed. A hydro-turbine generator, utilizing the water flow from the DeHart reservoir, allows for a reduction in the Dr. Robert E. Young Water Services Center electrical dependency.

The water system's distribution network includes more than 250 miles of cast-iron, ductile iron, and prestressed concrete cylinder pipe in various sizes from 4 to 42 inches in diameter. There are 1,690 fire hydrants and 3,540 valves in operation within the system.

Interconnects between the Harrisburg Water System and the water distribution system owned by United Water Inc. (formerly the General Waterworks of PA) are used only as emergency sources of water. One of the interconnections exists at the intersection of Hoffman and Vaughn Streets in the City of Harrisburg and consists of an eight-inch diameter pipe connection with a water meter and check valve in an underground vault. The other interconnection is located at the intersection of Derry and 29th Streets in the City of Harrisburg and consists of a ten-inch diameter pipe connection with a water meter and check valve in an underground vault. There is also a raw water interconnection located off the 42" main line to supply untreated water on an emergency basis.

Our system utilizes two pumping stations to convey water and maintain adequate distribution system pressure. The Gatehouse Pump Station located at Reservoir Park, utilizes two 400 HP horizontal split case centrifugal pumps, each rated for 8,700-GPM, to transfer finished water from the Lower Reservoir to the Upper Reservoir. A booster station, located in Susquehanna Township serves the Union Square Industrial Park. It includes a dual parallel pumping system which consists of a 750-GPM triplex constant pressure booster pumping system and a 1,000-GPM fire pump.

CITY OF HARRISBURG

BUREAU OF WATER

ACCOMPLISHMENT REPORT

2002

DEHART RESERVOIR AND WATERSHED

Essential functions are to manage the DeHart Dam facilities and watershed operations. The division consists of a DeHart Superintendent/Watershed Manager, (1) Operator and (1) Maintenance Specialist.

In 2002, potassium permanganate was not required for the control of taste and odor, associated with algae and organic matter in the reservoir.

A bypass from the reservoir is mandated by the State Water Allocations Permit to provide a minimum daily conservation release of 6.5 MGD for the purpose of preserving the natural flow of Clark's Creek. The rate of this flow is monitored at the Carsonville Weir; located downstream of the spillway. Throughout 2002, the required minimum daily conservation release was maintained or exceeded (See Exhibit E for additional details).

A big step toward the development of the Watershed Management Plan was the continuation and enhancement of the Water Quality Monitoring Program, initiated in 1994. Monitoring provides information on the depth from which to draw off water of optimal quality. Applications of copper sulfate were avoided during 2002, which saved the City money in terms of the treatment cost for algae control.

The Secchi Disc Depth is a measure of transparency of the water that assists the reservoir manager in determining the amount of algae growth present. The transparency of the water in DeHart Reservoir stayed above the level proven to show eutrophic conditions, i.e., excessive algae growth, throughout 2002.

The trend for overall pH in DeHart Reservoir during 2002 was 6.33, which is up from 6.03 in 2001. The pH level tends to be acidic and slightly lower at the bottom than at the top of the reservoir. Alkalinity, another important parameter in the treatment of the DeHart water supply, decreased to an average of 6.74 mg/l, down from 6.92 mg/l in 2001

In addition to the Reservoir Monitoring Program, the water quality monitoring program performed upstream of the reservoir was continued in 2002.

Other Accomplishments in 2002:

- Passed Annual PA Department of Environmental Protection Dam Inspection with comments.
- Used the DeHart database and Water Quality Monitoring Program to select appropriate depth for intake of raw water for treatment.
- Removed Vegetation from dam breast.
- Removed dead trees from shoreline of reservoir.
- Coordinated timber harvest on 100 acres of watershed.
- Continued clearing trees and shrubs from the mountain line right-of-way.
- Replanted trees at site of previous timber harvest.
- Extended boat ramp while reservoir level was low.
- Repaired lighting on dam breast.
- Completed installation of chemical treatment equipment on the boat in preparation of possible algae bloom in reservoir.
- Changed from the 24-ft to the 34-ft intake level due to low water level.
- Supervised the progress of the Spillway Improvements project, in conjunction with the Bureau Director and engineering firm representatives. Project completion is expected in the spring of 2003.

OPERATIONS/MAINTENANCE DIVISION

Essential functions are to operate and maintain all buildings and equipment at the Dr. Robert E. Young Water Services Center, DeHart Dam, Front Street River Intake and Pumping Station, Gatehouse, Lower Reservoir, Upper Reservoir, and the Union Square Booster Station. The division consists of a Operations/Maintenance Superintendent, (2) Operations Supervisors, (11) Water Plant Operators, (3) Maintenance Specialists, (1) Electrician, and (1) Electronics Technician.

Through 2002, a total of 3,256.98 million gallons (MG) of water were withdrawn from the combined sources: 3,256.98 MG from the DeHart Reservoir, 0 MG from the Susquehanna River, and 0 MG was supplied to United Water Pennsylvania via the Emergency Raw Water Interconnect (refer to Exhibit B for additional details). This combined total represents an average daily withdrawal of 8.92 MG, which was in compliance with the State Water Allocation Permit.

Water treatment includes the addition of lime and alum (aluminum sulfate) at the head of the plant for coagulation, chlorine prior to filtration for disinfection, fluoride to prevent dental caries, soda ash and caustic soda for pH/alkalinity adjustment, and finally, zinc orthophosphate for Distribution System corrosion control. This conventional water treatment process enabled the Bureau to meet all Federal, State, and Local water quality standards throughout 2002.

Other Accomplishments in 2002:

- Conducted numerous tours of the Bureau Facilities for schools and other civic groups throughout the year.
- Continued utilizing the computerized Maintenance Program to schedule preventive maintenance and equipment repairs at all Bureau Facilities.
- Continued utilizing zinc orthophosphate for corrosion control within the distribution system.
- Attended Pennsylvania Section AWWA Annual Conference.
- Provided assistance with the Enhanced Metering Project as required, in conjunction with the Bureau Director, and Distribution Superintendent.
- Attended meetings and monitored progress through completion, of the Lower Reservoir Project, in conjunction with the Bureau Director and engineering firm representatives. Lower Reservoir tanks placed into service on April 1st, 2002.
- Attended monthly progress meetings and monitored progress through completion, of the Energy Recovery Project, in conjunction with Bureau Director, (Hydro Turbine). Hydro-turbine generator placed into service on June 8th, 2002.
- Attended meetings for Partnership for Safe Drinking Water Program and prepared documents for Phase III submittals and received the Director's Award for Phase III completion and acceptance.
- Specified, purchased equipment, and installed security alarms on the remote pumping stations, (Union Square booster station, River pumping station, and Gatehouse pumping station).

WATER QUALITY DIVISION

In 2002, the Bureau of Water met all Federal Safe Drinking Water Act Primary Water Quality Standards. The Safe Drinking Water Act requires no more than 5% of turbidity samples taken and analyzed to be above 0.5 turbidity units; however, the turbidity MCL will be lowered to 0.3 NTUs on January 1st, 2002.

The Colilert was utilized during 2002 to test for total coliform, and Escherichia coli; there were no positive water samples on the distribution system during the yearly monitoring period. Turbidity monitoring is required every four hours in the effluent, (see Exhibit A for the 2002 test results). The Bureau of Water is required by Pennsylvania Department of Environmental Protection (PA DEP) to test throughout the year for certain parameters, including trihalomethanes (TTHM's), haloacetic acids (HAA's), total organic carbon (TOC's), volatile organic compounds (VOC's), synthetic organic compounds (SOC's), nitrates, radiologicals, zinc, and manganese.

A change in the corrosion control treatment process in 1999, required the City of Harrisburg to conduct lead and copper monitoring of sixty homes within the distribution system in June and October of 2000. The results from the June and October monitoring were below State and Federal, lead and copper regulations. Extensive testing continued in 2001 throughout the distribution system; on the basis of those test results, the Bureau has been granted reduced monitoring status, to a tri-annual schedule for copper and lead analyses. The next series of copper and lead analyses will be in 2004.

Our Water Quality Monitoring Program was continued to ensure production of high quality water for its customers. In addition to onsite monitoring, weekly distribution samples were collected and analyzed for free and total chlorine, temperature, pH, iron, total dissolved solids, total hardness, alkalinity and phosphate. This data allows us to monitor the water quality throughout the distribution system. The Water Quality Lab participated in the Partnership for Safe Water Program sponsored by AWWA (American Water Works Association.)

The Water Quality Lab handles customer complaints ranging from discolored water to odor. All complaints are logged and investigated to determine and eliminate the cause, to the consumer's satisfaction.

Other Accomplishments in 2002:

- The 2001 Consumer Confidence Report was transmitted to all consumers on June 1, 2002.
- As a result of instrumentation failure a HACH DR/4000 Spectrophotometer and a HACH senION 7 conductivity and TDS meter were obtained as replacements. With the new Spectrophotometer the Bureau of Water has the capability of analyzing for chlorophyll A and TOC.
- A savings of $1,000 to $2,500 per year should be realized as a result making our dilutions of Glacial Acetic acid and adjusting the pH of the on-line chlorine analyzers to 4.0 instrad of the previou pH of 3.2.
- Taught 33 classes utilizing the TAP water program in Harrisburg City and local Parochial schools.

DISTRIBUTION DIVISION

The Distribution is assigned responsibility for operations, maintenance and repair of over 250 miles of distribution system piping and appurtenances including approximately 1,690 fire hydrants and 3,540 valves. Our Division is directly responsible for the sale of all water meters, meter readings and maintenance of associated records. The Division is responsible for 20,000 domestic services, 2,450 commercial services, and 435 institution services and connections. We provide all service taps, hydrant flow tests, service application review and approval in accordance with the City Codified Ordinances and the Rules and Regulations of The Harrisburg Authority, and maintain appurtenant records as required. We perform all Pennsylvania One-Call System utility locations for water and sewer mains. The Division consists of a Distribution Superintendent, (8) Service Persons, (2) Water Meter Readers, and (3) Laborers.

Other Accomplishments in 2002:

- Assisted City Engineer with Capital Heights project.
- Completed 92% of the Enhanced Metering Project.
- Assisted contractor with meter pit assessment for Enhanced Metering Project.
- Completed employee Right-to-Know and Confined Space trainings.
- Hosted PA One-Call System Exposition.
- Attended various in-house training sessions.
- Attended PA Section AWWA Annual Conference in Split Rock.
- Performed daily tasks: meter report forms, vacant coded list, leak detection, fire hydrant repair and replacement, and meter readings.
- Responded to 5774 service calls.
- Repaired 23 main breaks.
- Removed 24 water taps for Demolition project.
- Completed 26 final street restorations.
- Excavated 56 curb boxes for delinquent termination.
- Completed 6876 water and sewer locates for PA One-Call System.
- Supported Newport Borough as directed.
- Supported Duncannon Borough as directed.
- Assisted City Bureau's and Department's as requested.

CITY OF HARRISBURG

BUREAU OF WATER

GOALS AND OBJECTIVES 2003

DEHART DAM

- Address comments in the PA Department of Environmental Protection's Annual Dam Inspection Report.
- With the approval of The Harrisburg Authority, plan a timber harvest sale in the area indicated in the Forest Stewardship Plan.
- Continue to monitor Clark's Creek in the watershed to determine sources of nutrient and bacterial input.
- Hire an independent laboratory to analyze algae samples of DeHart Reservoir on a quarterly basis.
- Remove dead trees from shoreline of reservoir.
- Continue to clean vegetation from the mountain line access road.
- Have access roads to facility repaved.
- Complete Spillway and Intake Tower Repair projects.

OPERATIONS/MAINTENANCE DIVISION

- Commence and submit the Security Vulnerability Assessment to the EPA by the December 31, 2003 due date.
- Continue process data collection and reporting with the use of a computer database to ensure that all Federal, State, and Local water quality standards are met.
- Continue to monitor utility and chemical expenses in order to reduce the operational costs associated with all Bureau facilities.
- Continue preventive maintenance program.
- Continue to provide the necessary submittals to continue to receive the Partnership For Safe Water' Directors Award.
- Work to successfully pass the DEP Filter Plant Performance Evaluation scheduled in March.

WATER QUALITY DIVISION

- The Microbiological Laboratory will continue to be operated and maintained in accordance with the standards necessary to perform quality bacteriological testing and to maintain certification.
- Continue the in-house program of analyzing chemical parameter unknowns by operations staff to assure precision and accuracy of equipment, methods, and operator's technique.
- Evaluate methodology and equipment of chemical testing procedures to ensure accurate results.
- Implement and expand the QA/QC protocols within the operations lab and in the field during sampling.
- Become more familiar with the Reservoir, Treatment and Distribution operation and responsibilities.
- Achieve sufficient knowledge that will benefit the Bureau in the following areas: algae counting, identification and microscopy, and photomicroscopy.
- Continue studies to achieve an in-depth knowledge of the chemistry of chlorination of water and its by-products, flocculation, corrosion control and water bacteriology. If practical, attending of relevant courses will be utilized to achieve this goal.

DISTRIBUTION DIVISION

- Complete water main tie-in's on 7th & Graham Streets, 32nd Street and Shell Street.
- Complete spring hydrant flushing as scheduled.
- Continue to provide service calls to customers as required.
- Continue to perform daily tasks: meter report forms, vacant coded list, leak detection, fire hydrant repair and replacement, and meter readings.
- Continue to work on final street restorations caused by main breaks, tap removals (demolition list), valve box repairs, and leaking services.
- Continue to support neighboring municipalities as required/directed.
- Continue to assist all Departments and Divisions as requested.
- Complete Enhanced Metering Project.

EXHIBIT A

Process Control/Water Quality Analysis - 2002

PARAMETERS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average	MCL Limits
Total Coliform: Presence/Absence														
DeHart Influent	P	P	P	P	P	P	P	P	P	P	P	P	P	
Susquehanna Influent	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A	
Distribution System	A	A	A	A	A	A	A	A	A	A	A	A	<1	< 5% Positive
Chlorine Residual, mg/l Free														
Filter Plant Effluent	2.39	2.39	2.38	2.44	2.56	2.37	2.37	2.39	2.37	2.37	2.40	2.38	2.40	
Distribution System	1.74	1.96	1.85	1.83	1.51	1.53	1.48	1.43	1.38	1.58	1.57	1.78	1.64	> 0.02
Turbidity, NTU														
Influent from DeHart	0.96	1.12	1.73	1.40	2.02	2.14	0.87	0.84	1.11	1.55	1.11	1.34	1.35	
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A	
Filter Plant Effluent	0.05	0.05	0.06	0.06	0.05	0.05	0.049	0.049	0.05	0.051	0.05	0.06	0.05	<0.5
pH, Std Units														
Influent from DeHart	6.10	6.10	6.07	6.04	6.01	5.92	5.82	5.84	5.89	5.91	5.83	5.73	5.94	
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A	
Filter Plant Effluent	7.73	7.78	7.81	7.80	7.77	7.78	7.78	7.77	7.78	7.78	7.81	7.79	7.78	
Distribution System	7.03	6.99	6.78	6.42	6.99	7.26	6.95	7.64	7.52	7.49	7.59	7.67	7.19	
Total Alkalinity, mg/l														
Influent DeHart, as CaCO3	5.8	5.8	5.4	5.3	5.4	5.5	5.8	5.9	5.8	5.6	5.33	5.91	5.63	
Influent Susquehanna, as CaCO3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A	
Filter Plant Effluent, as CaCO3	15.6	15.2	14.9	15.4	15.5	15.9	16.1	17.5	17.3	17.0	15.9	14.8	15.92	
Distribution System	14.3	13.9	13.7	12.9	14.0	14.5	15.1	17.5	16.6	15.5	14.7	13.7	14.70	
Temperature, C														
Influent from DeHart	6.7	7.0	7.8	11.4	14.7	18.2	21.8	23.4	22.1	18.3	11.9	8.0	14.27	
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A	
Filter Plant Effluent	6.2	6.4	7.4	10.9	14.2	17.5	21.0	22.7	21.5	18.0	11.5	7.3	13.72	
Distribution System	14.0	12.2	14.0	16.0	18.2	21.0	23.6	24.6	23.6	21.2	16.1	12.6	18.09	
Fluoride, mg/l														
Filter Plant Effluent	0.89	0.87	0.87	0.90	0.85	0.91	0.89	0.88	0.88	0.89	0.74	0.86	0.87	2.00
Aluminum, mg/l														
Filter Plant Effluent	0.02	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.20
Iron, mg/l														
Influent from DeHart	0.12	0.12	0.12	0.08	0.13	0.15	0.14	0.2	0.28	0.27	0.18	0.13	0.16	
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A	
Filter Plant Effluent	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.30
Distribution System	0.06	0.06	0.05	0.06	0.07	0.04	0.05	0.04	0.04	0.04	0.05	0.06	0.05	0.30
Manganese, mg/l														
Influent from DeHart	0.02	0.00	0.01	0.03	0.21	0.08	0.05	0.04	0.03	0.03	0.02	0.01	0.06	
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Filter Plant Effluent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Distribution System	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Total Dissolved Solids, mg/l														
Influent from DeHart	14.7	14.1	15.0	14.6	13.7	15.5	14.3	14.8	15.2	14.8	15.2	14	14.65	
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A	
Filter Plant Effluent	33.5	34.0	34.0	33.9	32.9	39.7	35.3	36.4	35.9	35.4	34.3	32.8	34.84	
Distribution System	35.6	36.7	38.6	40.4	43.6	38.7	34.9	39.3	37.6	37.8	36	33.7	37.74	
Total Hardness, mg/l														
Influent from DeHart	9.1	8.9	15.0	9.1	9.3	9.3	9.2	9.0	9.1	8.8	8.9	8.96	9.54	
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A	
Filter Plant Effluent	15.1	15.1	34.0	15.0	15.4	16.3	16.6	16.5	16.4	15.9	15	15.01	17.19	
Distribution System	16.0	15.0	15.7	16.0	16.2	16.4	17.2	17.7	17.9	16.7	14.9	15.5	16.27	
Orthophosphate, mg/l														
Filter Plant Effluent	1.45	1.5	1.5	1.5	1.5	1.47	1.53	1.49	1.41	1.46	1.48	1.48	1.47	
Distribution System	1.35	1.3	1.3	1.34	1.92	1.57	1.47	1.48	1.4	1.35	1.43	1.42	1.45	
Zinc, mg/l Total														
Distribution System	0.36	0.40	0.37	0.23	0.24	0.23	0.19	0.18	0.16	0.19	0.23	0.23	0.25	
***Total Trihalomethanes, mg/l**														
Distribution System	0.02	0.01	0.015	NA	0.030	NA	0.035	NA	NA	0.029	NA	NA	0.02	0.08
***Total Haloacetic Acids, mg/l**														
Distribution System	0.01	0.0156	0.016	NA	0.029	NA	0.032	NA	NA	0.024	NA	NA	0.02	0.06
Total Organic Carbon, mg/l														
Influent from DeHart	2.4	1.4	1.5	1.4	1.5	1.3	1.4	1.4	1.5	1.6	1.5	1.4	1.5	
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A	
Filter Plant Effluent	1.2	0.8	1.1	1	0.9	1.1	1	1	1.4	1.2	1	1.3	1	
Average Filter Run, Hours	80.2	77.5	77.0	80.0	78.5	66.1	79.6	79.7	81.1	80.4	79.0	80.5	78.30	

EXHIBIT B

Flow Monitoring and Water Withdrawal Information 2002

Month	DeHart Total (MG)	DeHart Average (MGD)	River Total (MG)	River Average (MGD)	* U.W.P.A. Interconnect (MG)	Total Water Withdrawn (MG)	Total Water Withdrawn (MGD)	Finished Water (MG)	Finished Water (MGD)	Process Water (MG)	Waste to Sewer (MG)	Ten Year Average (MGD)
January	282.76	9.12	0.00	0.00	0.00	282.76	9.12	277.36	8.95	5.28	5.87	10.86
February	246.54	8.81	0.00	0.00	0.00	246.54	8.81	239.25	8.54	4.58	4.95	10.75
March	269.35	8.69	0.00	0.00	0.00	269.35	8.69	263.79	8.51	5.87	5.94	10.67
April	249.45	8.32	0.00	0.00	0.00	249.45	8.32	243.83	8.13	6.58	6.26	10.31
May	257.97	8.32	0.00	0.00	0.00	257.97	8.32	248.90	8.03	7.17	7.40	10.71
June	273.12	9.10	0.00	0.00	0.00	273.12	9.10	263.90	8.80	7.06	6.40	11.15
July	295.25	9.52	0.00	0.00	0.00	295.25	9.52	286.06	9.23	7.96	6.67	11.35
August	308.17	9.94	0.00	0.00	0.00	308.17	9.94	298.66	9.63	7.24	6.58	11.35
September	275.81	9.19	0.00	0.00	0.00	275.81	9.19	269.45	8.98	6.95	5.31	10.83
October	276.35	8.91	0.00	0.00	0.00	276.35	8.91	267.95	8.64	6.60	8.17	10.44
November	253.54	8.45	0.00	0.00	0.00	253.54	8.45	248.18	8.27	5.21	5.85	10.32
December	268.67	8.67	0.00	0.00	0.00	268.67	8.67	263.87	8.51	5.17	5.95	10.28
Total	3,256.98	107.05	0.00	0.00	0.00	3,256.98	107.05	3,171.20	104.23	75.67	75.35	129.02
Average	271.42	8.92	0.00	0.00	0.00	271.42	8.92	264.27	8.69	6.31	6.28	10.75

* U.W.P.A. Denotes United Water Pennsylvania

Peak Day Water Use for Report Year (MGD) 11.07 on 2/16/02
Minimum Day Water Use for Report Year (MGD) 6.74 on 4/8/02

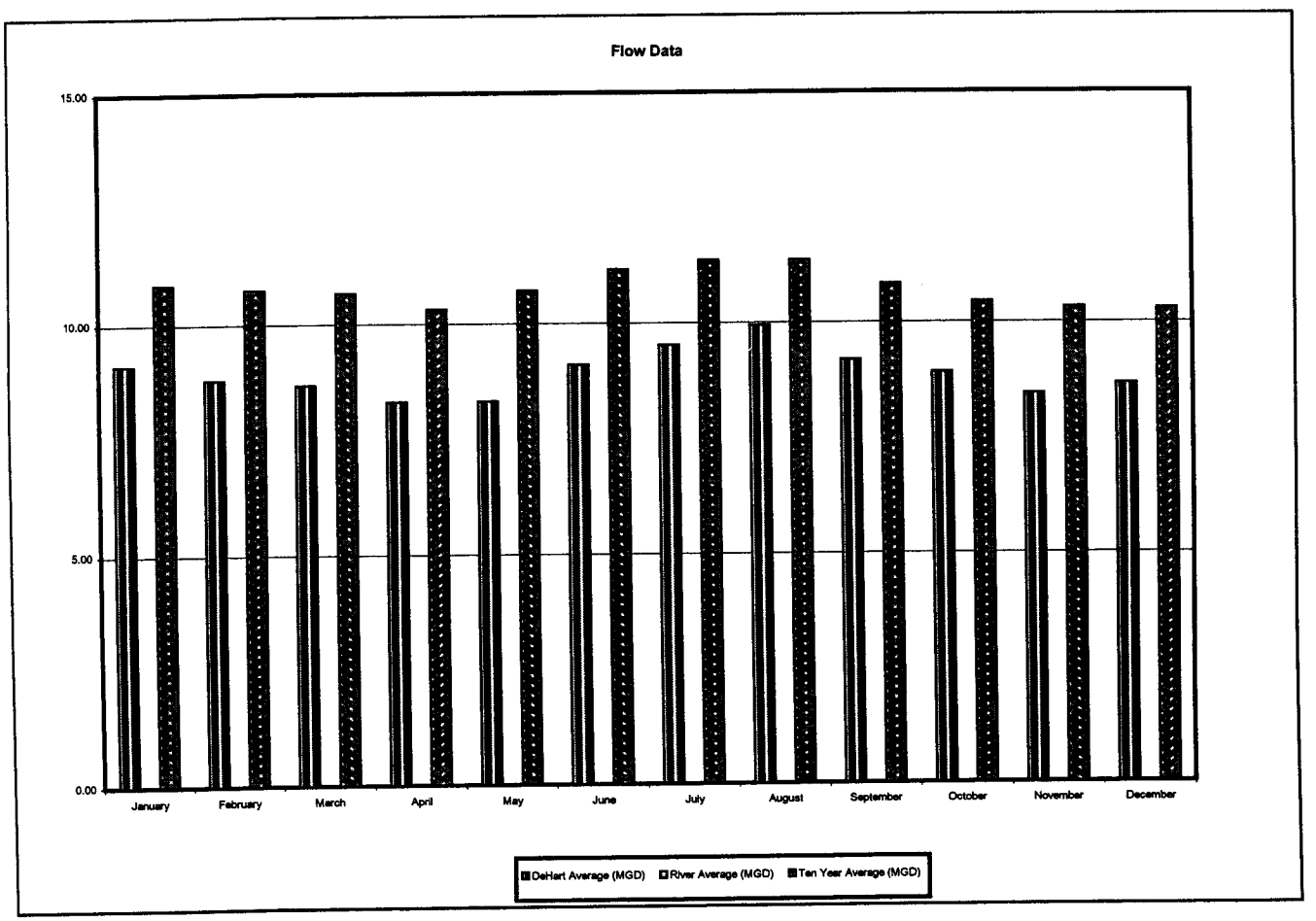


EXHIBIT C

Rainfall at the DeHart Reservoir - 2002

Date	January	February	March	April	May	June	July	August	September	October	November	December	Annual Total
2002 Total	2.09	0.76	4.7	5.59	4.27	3.83	1.87	2.06	5.9	5.42	3.6	5.66	45.75
Daily Average	0.067	0.027	0.152	0.186	0.138	0.128	0.060	0.066	0.197	0.175	0.120	0.183	1.50
Ten Year Average	4.07	2.23	3.96	3.37	3.59	4.97	4.02	3.2	4.78	3.94	3.82	3.23	45.18
2001 Total	2.26	1.48	4.47	3.01	2.4	8.58	3.23	2.5	4.61	1.52	1.34	2.45	37.85

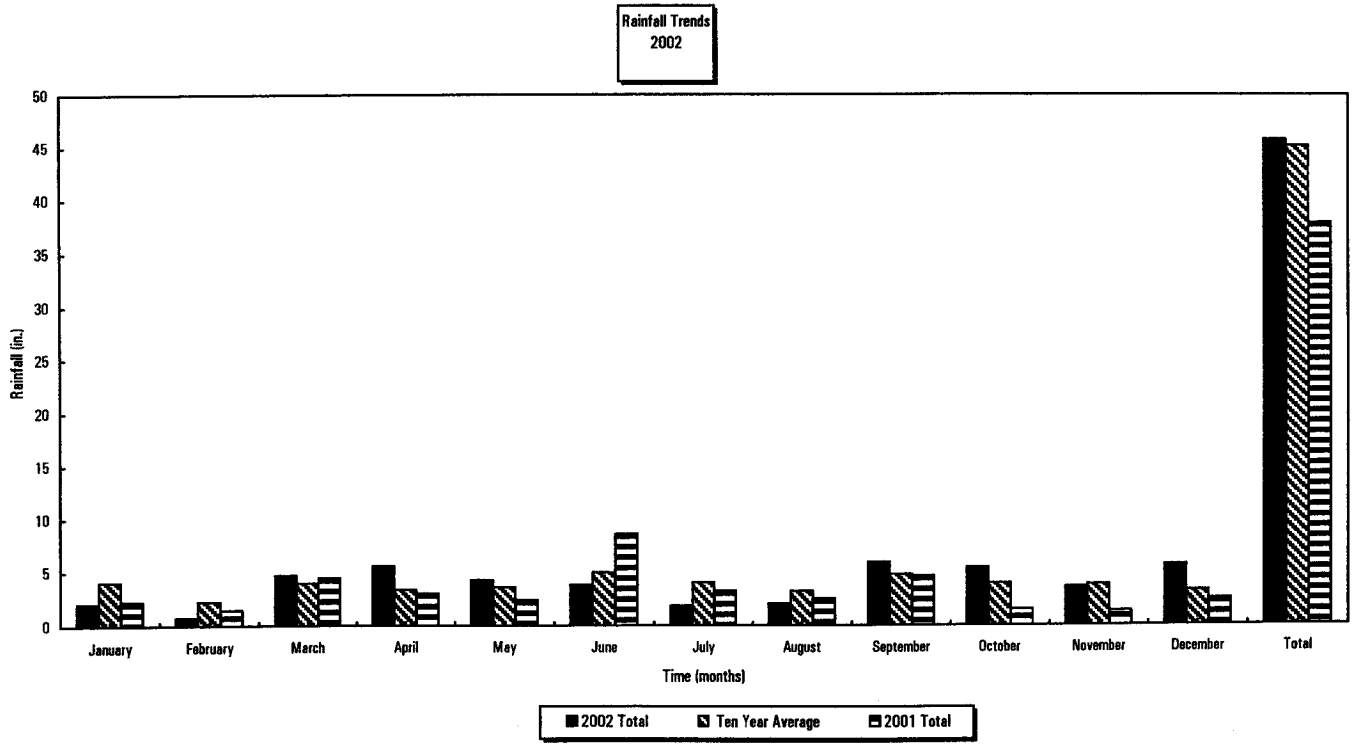


EXHIBIT D

Water Level at the DeHart Reservoir - 2002

Date	January	February	March	April	May	June	July	August	September	October	November	December
2002 AVG	-211.45	-238.43	-243.65	-189.47	-150.71	-134.80	-157.10	-195.00	-234.80	-258.74	-259.00	-208.19
Ten Year AVG	-62.46	-44.69	-29.29	-15.72	-11.44	-15.09	-22.99	-45.84	-67.97	-82.2	-88.35	-76.37
2001 AVG	-5.32	-1.50	2.77	3.83	-1.19	-12.83	-33.90	-63.28	-92.07	-122.20	-156.67	-182.45

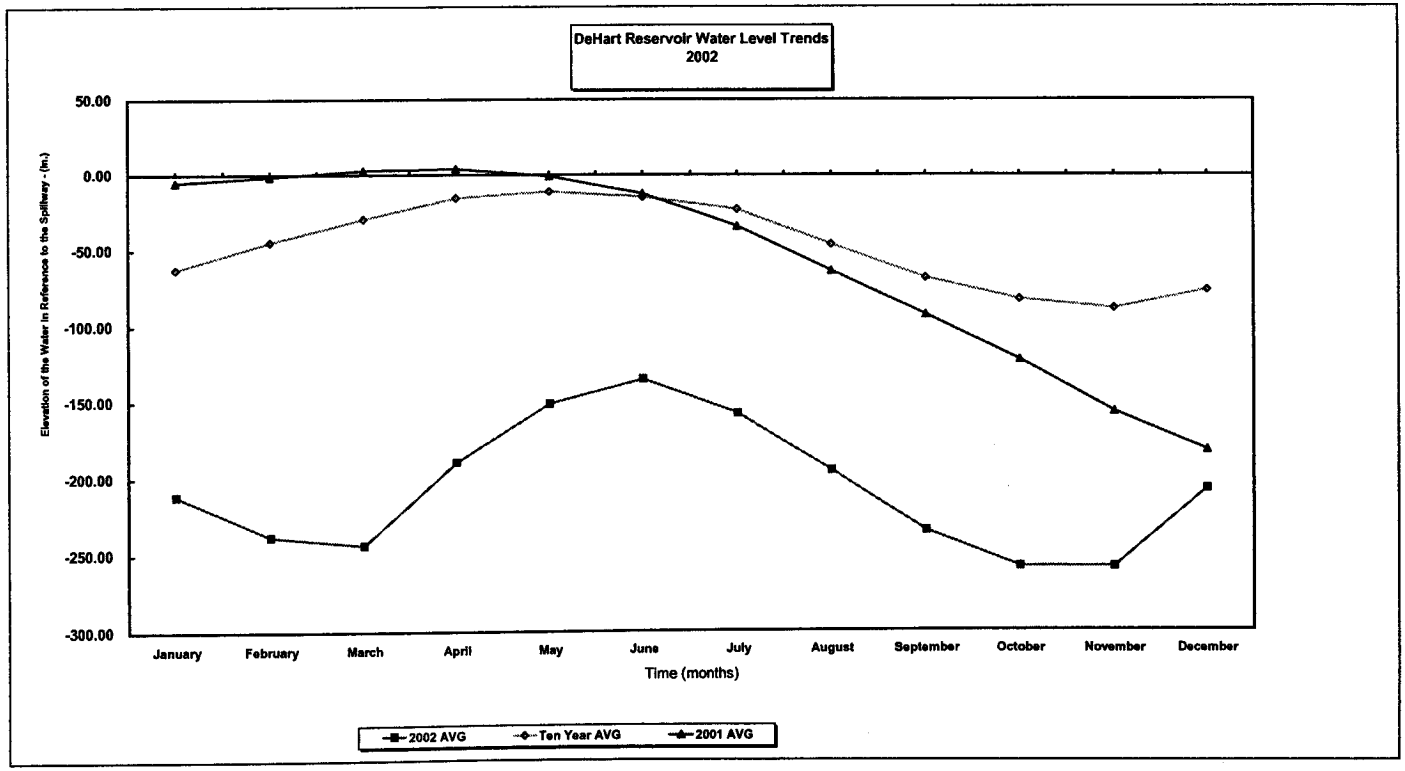


EXHIBIT E

Maintenance of Minimum Daily Conservation Release - 2002

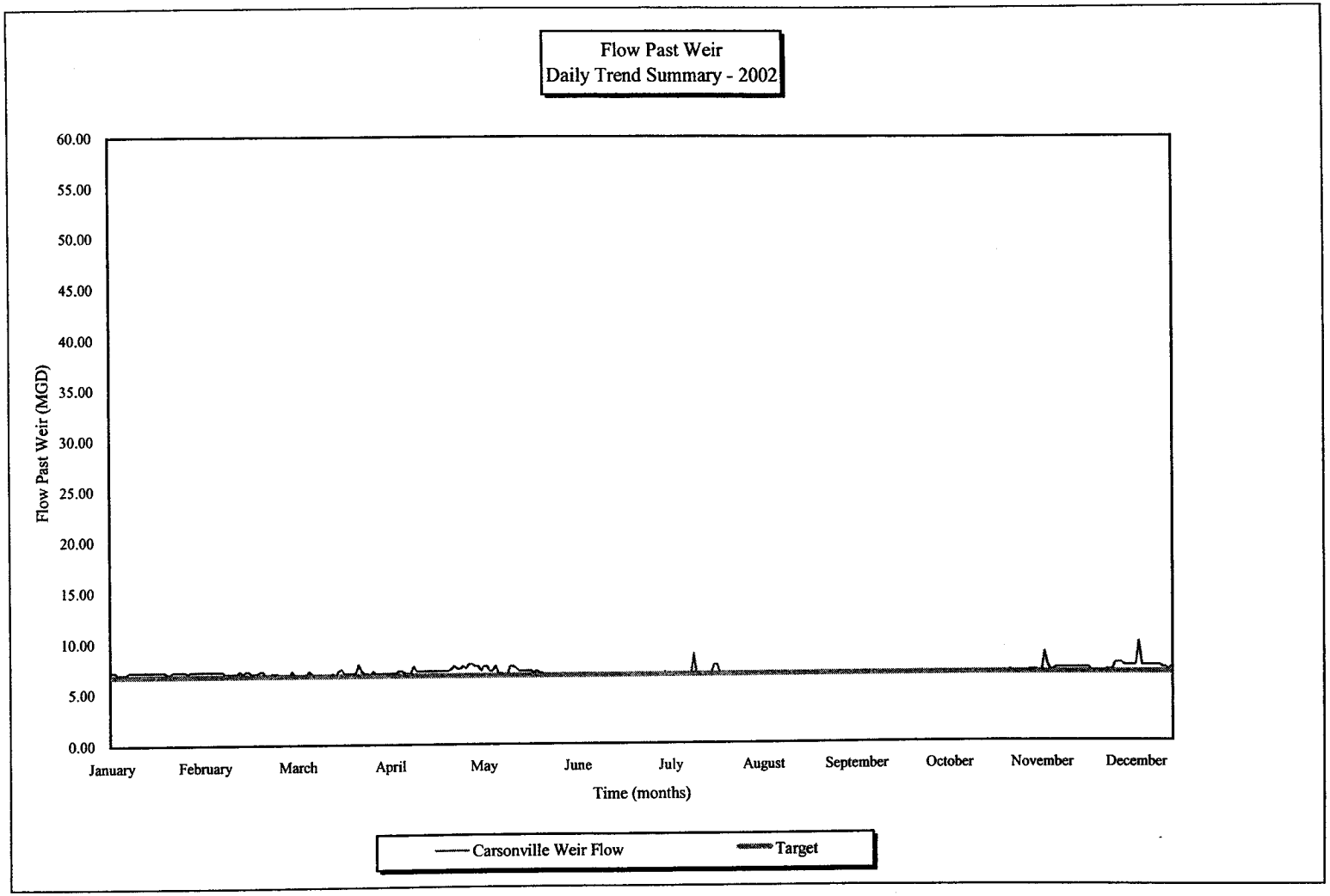


Exhibit G

Hydro-Turbine Generator Performance 2002

Month	Kilowatt-hour (kWh)	Anticipated Savings *
January		
February		
March		
April		
May		
June		
July	123,508	$7,410
August	71,026	$4,262
September	93,881	$5,632
October	95,850	$5,751
November	56,585	$3,395
December	76,119	$4,567
Total	516,969	$31,017
Average	86,162	$5,170

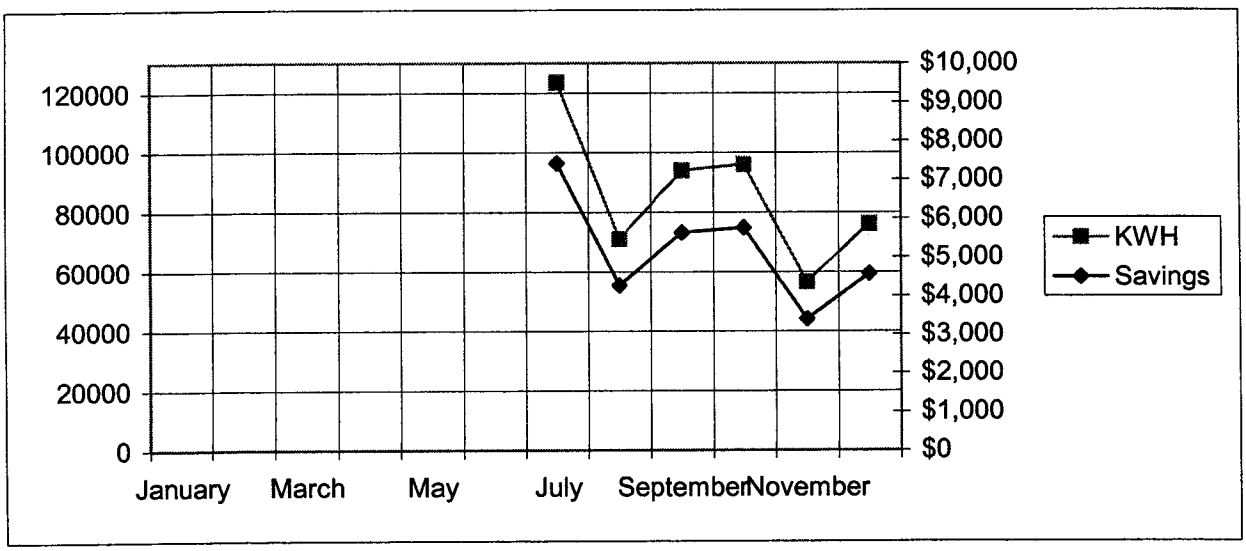


EXHIBIT F

Utility Usage - 2002

Location / Utility	January	February	March	April	May	June	July	August	September	October	November	December	Average	Total
Dr. Robert E. Young Water Services Center														
Electric														
Total, kwH	306,000	270,000	270,000	295,200	270,000	230,400	239,400	190,800	221,400	225,000	221,400	246,600	248,850	2,986,200
Average, kwH/Day	9,871	9,643	8,710	9,840	8,710	7,680	7,723	6,155	7,380	7,258	7,380	7,955	8,192	
Cost, Dollars	$17,401.35	$16,054.43	$18,436.47	$18,732.20	$17,625.82	$14,724.46	$14,713.90	$12,960.22	$13,293.42	$17,370.61	$13,955.39	$15,810.43	$15,923.23	$191,078.70
Natural Gas														
Total, Cu Ft	1,537,700	1,427,500	986,600	529,500	322,600	150,800	130,400	66,400	16,600	330,500	980,300	1,610,800	674,142	8,089,700
Average, Cu Ft/Day	49,603	50,982	31,826	17,650	10,406	5,027	4,206	2,142	553	11,017	32,677	53,693	22,482	
Cost, Dollars	$13,165.81	$13,571.07	$9,393.05	$5,704.31	$3,081.95	$1,583.68	$1,563.06	$920.64	$414.60	$3,322.63	$9,356.19	$15,537.87	$6,467.91	$77,614.86
Potable Water														
Total, Gal	8,100	7,200	6,500	42,200	161,600	1,913,800	438,100	688,400	314,600	62,900	9,800	8,200	305,117	3,661,400
Average, Gal/Day	261	257	210	1,407	5,213	63,793	14,132	22,206	10,487	2,029	327	265	10,049	
Cost, Dollars	$31.21	$27.74	$25.05	$162.60	$622.69	$7,375.79	$1,688.44	$2,653.09	$1,212.47	$242.42	$37.77	$31.60	$1,175.91	$14,110.87
Reservoir Park Pump Station														
Electric														
Total, kwH	168,800	189600	174800	118,000	206,400	212,400	101,600	109,600	110,400	107,200	110,000	108,800	143,133	1,717,600
Average, kwH/Day	5,445	6,771	5,639	3,933	6,658	7,080	3,277	3,535	3,680	3,458	3,667	3,510	4,721	
Cost, Dollars	$10,996.59	$12,006.19	$11,213.60	$8,488.42	$12,800.44	$10,869.93	$3,284.15	$5,607.75	$5,646.63	$6,568.53	$6,851.09	$8,048.66	$8,531.83	$102,381.98
Natural Gas														
Total, Cu Ft	0	0	0	0	0	0	0	0	0	0	0	58,300	4,858	58,300
Average, Cu Ft/Day	0	0	0	0	0	0	0	0	0	0	0	1,881	157	
Cost, Dollars	$8.55	$10.51	$10.51	$10.51	$10.51	$10.52	$10.52	$10.52	$10.52	$10.54	$36.54	$589.30	$60.75	$729.05
Potable Water														
Total, Gal	40600	20957	324	16905	1958	184	160328	486676	82835	230	84	114	67,600	811,195
Average, Gal/Day	1310	748	10	564	63	6	5172	15699	2761	7	3	4	2196	
Cost, Dollars	$156.47	$80.77	$1.25	$65.15	$7.55	$0.71	$617.90	$1,875.65	$319.25	$6.63	$2.42	$3.29	$261.42	$3,137.04
Susquehanna River Pump Station														
Electric														
Total, kwH	1800	1,200	1,200	1,800	1,200	1,221	1,179	1,200	1,800	1,200	1,200	1,800	1,400	16,800
Average, kwH/Day	58	43	39	60	40	41	38	39	60	39	40	58	46	
Cost, Dollars	$306.60	$236.07	$267.89	$306.60	$267.89	$269.25	$266.91	$267.89	$307.02	$268.25	$268.25	$307.02	$278.30	$3,339.64
Natural Gas														
Total, Cu Ft	30,400	25,600	21,900	4,500	200	0	0	0	0	1,400	14,200	38,300	11,375	136,500
Average, Cu Ft/Day	981	914	706	145	6	0	0	0	0	45	473	1235	376	
Cost, Dollars	$289.23	$245.18	$211.64	$51.71	$17.21	$18.00	$17.98	$17.98	$17.98	$24.41	$155.81	$395.84	$121.91	$1,462.97
Potable Water														
Total, Gal	300	300	300	300	200	100	300	400	1,930	67	0	500	391	4,697
Average, Gal/Day	10	11	10	10	6	3	10	13	64	2	0	16	13	
Cost, Dollars	$1.16	$1.16	$1.16	$1.16	$0.77	$0.39	$1.16	$1.54	$7.44	$1.93	$0.00	$14.42	$2.69	$32.26
Union Square Booster Station														
Electric														
Total, kwH	4,910	4,497	4,502	3538	2,450	1,003	1,272	1,543	1,250	1,648	5,111	4368	3,008	36,092
Average, kwH/Day	158	161	145	114	79	33	41	50	42	53	170	141	99	
Cost,Dollars	$479.17	$446.68	$447.07	$421.17	$297.63	$141.98	$157.70	$149.38	$153.55	$197.46	$520.71	$465.90	$323.20	$3,878.40
DeHart Facilities														
Electric														
Total, kwH	3,896	3,183	3,185	3,875	3,168	2,938	4,487	714	3,358	2,984	3,322	6,110	3,435	41,220
Average, kwH/Day	126	114	103	129	102	98	145	23	112	96	111	197	113	
Cost, Dollars	$452.24	$407.93	$407.80	$508.13	$408.03	$395.41	$496.21	$88.33	$433.33	$394.92	$416.38	$577.27	$415.50	$4,985.98
Fuel Oil														
Total, Gals.	824	683	742	448	306	146	59	130	110	375	710	1080	468	5,613
Average, Gals/Day	27	24	24	15	10	5	2	4	4	12	24	35	15	
Cost, Dollars	$649.64	$538.48	$584.99	$353.20	$241.25	$115.11	$46.52	$102.49	$85.04	$289.91	$548.90	$834.95	$365.87	$4,390.48
City Island Heat Trace														
Electric														
Total, kwH	339	312	350	270	291	298	237	279	246	298	339	353	301	3,612
Average, kwH/Day	11	11	11	9	9	10	8	9	8	10	11	11	10	
Cost, Dollars	$42.51	$39.73	$43.64	$35.42	$37.56	$38.28	$32.04	$36.38	$69.36	$38.33	$42.57	$44.21	$41.67	$500.03
Expenditures YTD	$43,980.53	$43,665.94	$41,044.11	$34,840.58	$35,419.30	$35,543.50	$22,896.48	$24,691.87	$21,970.60	$28,736.57	$32,192.02	$42,660.75	$33,970.19	$407,642.26

EXHIBIT H

Treatment Chemical Usage - 2002

Chemical	January	February	March	April	May	June	July	August	September	October	November	December	Average	Total
Chlorine														
Total, Lbs.	6,890	7,040	6,750	6,580	6,840	8,619	8,030	8,590	8,080	7,400	6,880	7,140	7,403	88,839
Average, Lbs./Day	222	251	218	219	221	287	259	277	269	239	229	230	243.5	
Dose, mg/l	2.9	3.4	3.0	3.2	3.2	3.8	3.3	3.3	3.5	3.2	3.3	3.2	3.3	
Cost, $/Lbs.	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	
Total Cost, Dollars	$1,550.25	$1,584.00	$1,518.75	$1,480.50	$1,539.00	$1,939.28	$1,806.75	$1,932.75	$1,818.00	$1,665.00	$1,548.00	$1,606.50	$1,665.73	$19,988.78
Alum														
Total 50 wt.% Al2SO4 *14.3 H20	4,426	4,549	4,882	4,455	6,063	5,206	4,532	4,394	3,585	4,125	3,850	4,171	4,520	54,238
Avg Alum, Gals./Day	143	162	157	149	196	174	146	142	120	133	128	135	148.6	
Alum, mg/l	10.1	11.9	11.7	11.5	15.1	12.3	9.9	9.2	8.4	9.6	9.8	10.0	10.8	
Alum Cost, $/Gal.	$0.31	$0.31	$0.31	$0.31	$0.31	$0.31	$0.31	$0.31	$0.31	$0.31	$0.31	$0.31	$0.31	
Alum Total Cost, Dollars	$1,362.99	$1,400.87	$1,503.42	$1,371.92	$1,867.11	$1,603.20	$1,395.64	$1,353.14	$1,104.01	$1,270.30	$1,185.61	$1,284.47	$1,391.89	$16,702.67
Lime														
Total Ca(OH)2, Lbs.	10238	10522	11292	10304	14023	12041	10482	10162	8291	9539	8903	9645	10,454	125,442
Average Lime, Lbs./Day	330	376	364	343	452	401	338	328	276	308	297	311	343.8	
Lime Dose, mg/l	4.3	5.1	5.0	5.0	6.5	5.3	4.3	4.0	3.6	4.1	4.2	4.3	4.6	
Lime Cost, $/Lbs.	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	
Lime Total Cost, Dollars	$441.41	$453.66	$486.85	$444.26	$604.60	$519.15	$451.93	$438.13	$357.47	$411.27	$383.85	$415.84	$450.70	$5,408.43
Soda Ash														
Total Na2CO3, Lbs.	26350	24850	26400	26950	27700	26900	23150	29950	27600	27100	23350	24450	26,229	314,750
Avg Soda Ash, Lbs./Day	850	888	852	898	894	897	747	966	920	874	778	789	862.7	
Soda Ash Dose, mg/l	11.2	12.1	11.8	13.0	12.9	11.8	9.4	11.7	12.0	11.8	11.0	10.9	11.6	
Soda Ash Cost, $/Lbs.	$0.12	$0.12	$0.12	$0.12	$0.12	$0.12	$0.12	$0.12	$0.12	$0.12	$0.12	$0.12	$0.12	
Soda Ash Total Cost, Dollars	$3,251.59	$3,066.49	$3,257.76	$3,325.63	$3,418.18	$3,319.46	$2,856.71	$3,695.83	$3,405.84	$3,344.14	$2,881.39	$3,017.13	$3,236.68	$38,840.15
Fluoride														
Total 59.8 wt. % Na2SiF6 Lbs	2120	1805	2110	2618	2830	3115	3335	3555	3320	2955	2085	2290	2,678	32,138
Average, Fluoride Lbs./Day	68	64	68	87	91	104	108	115	111	95	70	74	87.9	
Fluoride (F-) Dose, mg/l	0.5	0.5	0.6	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.6	0.6	0.7	
Fluoride Cost, $/Lbs.	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	
Fluoride Total Cost, Dollars	$602.08	$512.62	$599.24	$743.51	$803.72	$884.66	$947.14	$1,009.62	$942.88	$839.22	$592.14	$650.36	$760.60	$9,127.19
Sodium Hydroxide														
Total 50 wt.% NaOH Gals	14	0	0	0	0	85	499	651	0	13	7	6	106	1,275
Avg NaOH, Gals./Day	0	0	0	0	0	3	16	21	0	0	0	0	3.4	
NaOH, mg/l	0.0	0.0	0.0	0.0	0.0	0.2	1.3	1.6	0.0	0.0	0.0	0.0	0.3	
NaOH 50 wt. %Cost, $/Gal.	$1.89	$1.89	$1.89	$1.89	$1.89	$1.89	$1.89	$1.89	$1.89	$1.89	$1.89	$1.89	$1.89	
NaOH Total Cost, Dollars	$27.08	$0.00	$0.00	$0.00	$0.00	$161.07	$945.55	$1,233.57	$0.00	$24.63	$13.26	$11.37	$201.38	$2,416.53
Zinc Orthophosphate														
Total Zn3(PO4)2, Lbs.	8395	8719	8475	7522	7987	8684	8994	9021	8472	9057	8053	8025	8,450	101,404
Avg Zn3(PO4)2, Lbs./Day	271	311	273	251	258	289	290	291	282	292	268	259	278.0	
Zn3(PO4)2 Dose, mg/l	3.6	4.2	3.8	3.6	3.7	3.8	3.7	3.5	3.7	3.9	3.8	3.6	3.7	
Zn3(PO4)2 Cost, $/Lbs.	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	
Zn3(PO4)2 Total Cost, Dollars	$2,417.76	$2,511.07	$2,440.80	$2,166.34	$2,300.26	$2,500.99	$2,590.27	$2,598.05	$2,439.94	$2,608.42	$2,319.26	$2,311.20	$2,433.70	$29,204.35
Potassium Permanganate														
Total KMnO4, Lbs.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg KMnO4, Lbs./Day	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
KMnO4 Dose, mg/l	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
KMnO4 Cost, $/Lbs.	$1.43	$1.43	$1.43	$1.43	$1.43	$1.43	$1.43	$1.43	$1.43	$1.43	$1.43	$1.43	$1.43	
KMnO4 Total Cost, Dollars	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Expenditures YTD	$9,653.16	$9,528.71	$9,806.82	$9,532.16	$10,532.87	$10,927.80	$10,993.99	$12,261.09	$10,068.13	$10,162.98	$8,923.52	$9,296.87	$10,140.68	$121,688.10
Average Flow Withdrawn (MGD)	9.12	8.81	8.69	8.32	8.32	9.10	9.52	9.94	9.19	8.91	8.45	8.67	107.05	

EXHIBIT I

DISTRIBUTION DIVISION ACTIVIES 2002

Activity	January	February	March	April	May	June	July	August	September	October	November	December	Annual Total
Locations	601	180	512	688	366	97	519	12	0	0	0	0	2975
Meters - missing	2	0	0	0	1	4	2	1	0	0	0	0	10
Leaking meters - replaced	2	2	2	2	1	0	1	67	34	4	0	0	115
Non-registering meters - replaced	0	4	5	11	6	0	0	4	12	35	43	10	130
Remote meters - repaired	15	8	12	10	25	15	18	43	31	41	43	27	288
Calibrated meters	0	0	0	0	0	0	0	0	0	0	0	0	0
New services	3	0	2	0	0	0	0	4	0	3	0	0	12
Water Shutoffs - vacant building leaking	5	7	7	2	5	0	2	0	2	0	4	9	43
Water Shutoffs - leaking services	3	1	1	2	2	0	3	0	7	1	1	0	21
Water Shutoffs - shut off program	2	2	1	91	47	55	70	31	68	140	112	1	620
Water Shutoffs - vacant coded program	17	6	21	9	9	9	12	27	12	3	4	5	134
Water turn on	17	26	45	33	52	41	71	44	30	38	53	29	479
Water tap - inspected	6	0	0	7	2	2	4	6	2	2	4	3	38
Water tap - cleaned	3	5	0	1	1	1	7	8	6	4	1	2	39
Water tap - installed	3	3	2	7	0	1	2	3	0	2	7	3	33
Hydrant flow tests	11	16	14	9	4	6	8	2	0	17	1	2	90
Reported leak investigations	12	51	15	60	49	38	50	29	40	37	29	32	442
Leak notices served	7	5	2	4	2	2	5	5	2	7	1	3	45
Final leak notices served	4	5	3	3	1	1	5	2	3	2	0	0	29
Meter readings - attempted	13422	14856	14588	15746	16134	17697	18899	19341	19502	19878	20498	20580	211141
Meter readings - obtained	13204	14499	14252	15382	16105	17528	18333	18763	18955	19282	19422	19608	205333
Main breaks - repaired	10	3	2	0	0	1	1	2	0	1	0	3	23
Hydrants - replaced	2	0	0	0	2	0	0	0	0	0	0	0	4
Hydrants - repaired	3	3	9	4	3	4	6	4	3	1	0	0	40
Valves - replaced	0	0	0	2	0	0	2	0	0	0	0	0	4
Valves - repaired	2	0	0	0	2	0	2	0	0	0	0	0	6
Locates completed	1028	497	305	836	596	558	811	571	420	449	459	346	6876
Valve box repairs	3	5	2	0	3	0	3	2	2	2	1	1	24

EXHIBIT J

CAPITAL IMPROVEMENTS PROJECTS 2002

Enhanced Metering Project	January	February	March	April	May	June	July	August	September	October	November	December	Project Total	Percent Complete
5/8 Inch Installed	1,045	1,058	1,176	1,265	1,025	709	682	67	32	35	30	29	15,572	92%
3/4 Inch Installed	87	139	64	100	74	40	58	2	3	5	2	6	1,718	94%
1 Inch Installed	69	78	45	38	31	66	24	0	2	1	5	3	1,135	93%
1 1/2 Inch Installed	22	8	5	7	2	7	7	0	1	1	0	1	361	86%
2 Inch Installed	28	12	2	2	5	4	5	0	4	2	1	7	469	106%
3 Inch Installed	6	4	4	10	0	0	2	0	1	1	0	1	78	74%
4 Inch Installed	5	12	1	9	2	3	6	1	1	1	0	0	69	88%
6 Inch Installed	2	3	0	1	1	0	5	2	1	1	0	0	33	67%
8 Inch Installed	0	0	0	0	1	0	0	0	0	1	0	0	5	33%
10 Inch Installed		0	0	0	0	0	0	0	1	1	1	0	1	11%
Total	1,264	1,314	1,297	1,432	1,141	829	789	72	46	49	39	47	**19,441**	92%

EXHIBIT K

CITY OF HARRISBURG
BURAU OF WATER - HARRISBURG FUND

Expenditure Report for the Year Ending December 31, 2002

Account Description	Adjusted Budget	December Expenditure	December Encumberance	Year To Date Expenditure	Budget Balance
Administration Division					
Salaries & Wages	$315,751.00	$21,421.32	$0.00	$308,065.36	$7,685.64
Fringe Benefits	$121,080.00	$17,930.79	$0.00	$115,452.04	$5,627.96
Communications Expense	$38,050.00	$1,515.00	$0.00	$36,884.26	$1,165.74
Professional Fees	$231,110.00	$19,500.79	$0.00	$175,072.21	$56,037.79
Insurance	$59,450.00	$0.00	$0.00	$59,176.17	$273.83
Maintenance & Repairs	$54,650.00	$125.58	$0.00	$50,564.93	$4,085.07
Contracted Services	$3,880,420.00	$685.88	$0.00	$3,877,371.03	$3,048.97
Supplies & Expenses	$64,185.00	$2,933.03	$0.00	$60,912.86	$3,272.14
Payments Other Transfers - Authority	$6,286,801.00	$0.00	$0.00	$0.00	$6,286,801.00
Capital Outlay	$319,496.00	($25,840.00)	$0.00	$139,777.07	$179,718.93
Prior Year Expenses	$6,900.00	$2,642.80	$0.00	$9,466.24	($2,566.24)
Total Administration:	**$11,377,893.00**	**$40,915.19**	**$0.00**	**$4,832,742.17**	**$6,545,150.83**
Distribution / Metering Divisions					
Salaries & Wages	$496,811.00	$38,910.21	$0.00	$493,029.92	$3,781.08
Fringe Benefits	$122,472.00	$15,359.07	$0.00	$114,995.62	$7,476.38
Communications Expense	$2,950.00	$144.48	$0.00	$1,880.71	$1,069.29
Rentals	$2,000.00	$0.00	$0.00	$0.00	$2,000.00
Maintenance & Repairs	$17,145.00	$528.97	$0.00	$9,108.97	$8,036.03
Contracted Services Expenses	$781,241.00	$5,740.00	$0.00	$774,567.00	$6,674.00
Supplies & Expenses	$142,185.00	$10,558.74	$0.00	$91,073.11	$51,111.89
Capital Outlay	$5,000.00	$0.00	$0.00	$0.00	$5,000.00
Prior Year Expenses	$63,100.00	$0.00	$0.00	$60,500.00	$2,600.00
Total Distribution / Metering:	**$1,632,904.00**	**$71,241.47**	**$0.00**	**$1,545,155.33**	**$87,748.67**
Operations Division					
Salaries & Wages	$806,429.00	$67,480.41	$0.00	$799,677.48	$6,751.52
Fringe Benefits	$183,786.00	$24,407.65	$0.00	$179,701.97	$4,084.03
Communications Expense	$7,150.00	$9.90	$0.00	$7,056.03	$93.97
Professional Fees	$3,300.00	$0.00	$0.00	$2,000.00	$1,300.00
Utilities & Services	$778,100.00	$53,686.44	$0.00	$776,457.75	$1,642.25
Rentals	$800.00	$0.00	$0.00	$326.93	$473.07
Maintenance & Repairs	$32,800.00	$3,010.43	$0.00	$29,329.58	$3,470.42
Contracted Services Expense	$1,047,650.00	$105.00	$0.00	$1,046,512.17	$1,137.83
Supplies & Expenses	$230,625.00	$29,016.84	$0.00	$206,540.97	$24,084.03
Capital Outlay	$13,690.00	$0.00	$0.00	$5,570.00	$8,120.00
Total Operations:	**$3,104,330.00**	**$177,716.67**	**$0.00**	**$3,053,172.88**	**$51,157.12**
Total Expenditure:	**$16,115,127.00**	**$289,873.33**	**$0.00**	**$9,431,070.38**	**$6,684,056.62**

EXHIBIT L
CITY OF HARRISBURG

BUREAU OF WATER - HARRISBURG FUND

Revenue Report for the Year Ending December 31, 2002

Account Description	Adjusted Budget	December Revenue	YTD Revenue	Budget Balance
Savings Acct. Interest	$10,000.00	$970.92	$6,200.30	$3,799.70
Interest on Investments/Grant	$12,000.00	$111.94	$4,422.88	$7,577.12
Total Interest Income	**$22,000.00**	**$1,082.86**	**$10,623.18**	**$11,376.82**
Water Sales Revenue	$12,165,827.00	$717,194.19	$9,695,785.97	$2,470,041.03
Water Revenue Ready To Serve	$1,750,000.00	$261,297.29	$2,872,615.22	($1,122,615.22)
Meter Sales Revenue	$0.00	$1,735.00	$6,900.00	($6,900.00)
Parts Revenue	$0.00	$127.00	$191.00	($191.00)
Water Conservation Device Sales	$0.00	$0.00	$18.00	($18.00)
Fireline Charges	$110,000.00	$3,969.25	$292,768.52	($182,768.52)
Other Hbg. Water Operational Revenue	$65,500.00	$2,328.64	$51,592.99	$13,907.01
Meter/Tap Valves Revenue	$12,000.00	$1,000.00	$13,125.00	($1,125.00)
Water Service Initiation Fee	$300.00	$25.00	$250.00	$50.00
Water Restoration	$11,500.00	$3,253.29	$18,719.98	($7,219.98)
Water Termination Fee	$0.00	$201.80	$933.69	($933.69)
Hbg. Water Liens-Prin Revenue	$185,000.00	$17,760.44	$205,222.38	($20,222.38)
Hbg. Water Liens-Int Revenue	$15,000.00	$1,280.48	$20,345.00	($5,345.00)
Hbg. Water Utility Fund	**$14,315,127.00**	**$1,010,172.38**	**$13,178,467.75**	**$1,136,659.25**
Water Sales	$1,000,000.00	$95,158.83	$1,129,381.40	($129,381.40)
Susquehanna Ready To Serve	$275,000.00	$28,213.71	$316,667.84	($41,667.84)
Total Susquehanna Water Fund	**$1,275,000.00**	**$123,372.54**	**$1,446,049.24**	**($171,049.24)**
Refunds of Expenditures	$3,000.00	$0.00	$5,417.98	($2,417.98)
Total Miscellaneous	**$3,000.00**	**$0.00**	**$5,417.98**	**($2,417.98)**
Revenue THA	$500,000.00		**$0.00**	$500,000.00
Total Intergovernmental	**$500,000.00**	**$0.00**	**$0.00**	**$500,000.00**
Total Revenue	**$16,115,127.00**	**$1,134,627.78**	**$14,640,558.15**	**$1,474,568.85**

Exhibit N

CITY OF HARRISBURG
DR. ROBERT E. YOUNG WATER SERVICES CENTER
2002 Employee List

Management Staff

Name	Position	Employment Date
Standish, Daniel E.	Director	05/23/94
Stabley Jr., Jack R.	Water Quality Administrator	12/17/01
Eisenberger II, David E.	Distribution Superintendent	02/23/87
Bingaman, Chad E.	DeHart Superintendent/Watershed Manager	07/25/94
Haney Jr., Irl G.	Operations/Maintenance Superintendent	07/08/96
Bey, Raly T. A.	Operations Supervisor	06/27/94

Bargaining Unit Employees

Name	Position	Employment Date
Aboukir, Janette	Operator I	07/30/01
Ambush, Terri M.	Meter Reader II	12/12/88
Beshara, David A.	Service Person I	07/24/95
Beshara, Frederick D.	Service Person III	06/08/92
Blake, David H.	Operator I	07/03/00
Boone, Robin L.	Service Person I	01/06/97
Brookmyer, Bryon N.	Maintenance Specialist IV	07/25/94
Cubilette, Luis F.	Operator I	05/28/96
Decker, Conrad B.	Operator IV	08/22/94
Echevarria, Samuel	Laborer III	07/15/91
Galbraith Jr., Daniel	Electronics Technician	03/20/95
Galbraith Sr., Daniel	Operator I	03/11/02
Heineman, Robert C.	Service Person I	07/11/94
Isenberg, Richard A.	Operator IV	09/19/86
Jordan, David R.	Laborer III	07/27/92
Landis, Chuck T.	Service Person IV	05/21/90
Marcus, Dennis F.	Operator I	04/18/77
Matthews, Saundra L.	Secretary II	09/04/90
Miller, David P.	Meter Reader II	04/28/75
Mione, Andrew F.	Operator IV	10/03/88
Morrow, Ronald A.	Laborer II	10/27/99
Muoio, Rosanne M.	Administrative Assistant I	04/04/94
Pritula, Janet L.	Operator I	07/17/00
Reidell Jr., Earl W.	Maintenance Specialist III	01/07/91
Rohrer Jr., James R.	Service Person IV	07/12/74
Russell, Brian J.	Maintenance Specialist IV	07/18/94
Santiago, Geraldo A.	Maintenance Specialist III	02/18/92
Shomper, Dennis H.	Operator II	03/24/80
Thames, David A.	Service Person I	07/31/95
Vugrinec, Robert J.	Electrician	07/06/87
Zurowski, JoAnn M.	Operator III	03/28/88

EXHIBIT 3

CITY OF HARRISBURG
BUREAU OF WATER

2002

ORGANIZATIONAL CHART

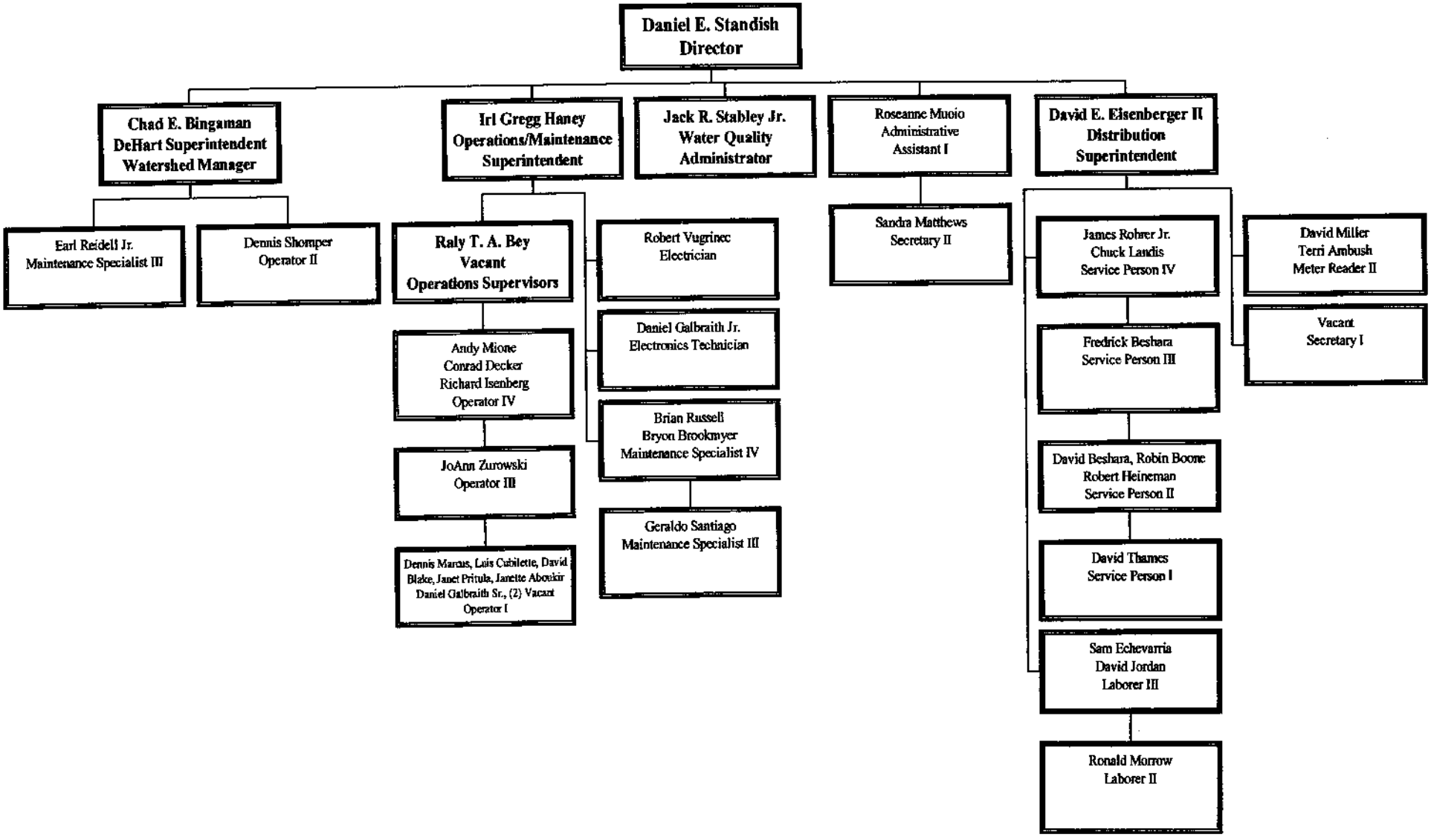


Exhibit P

City Owned Facilities Utilized by Bureau of Water

Dr. Robert E. Young Water Services Center
Headquarters, Operations/Maintenance, Distribution, Laboratory
100 Pine Drive
Harrisburg, PA 17103-1260
(717) 238-8725
(717) 238-9168 Fax

William T. DeHart Dam and Reservoir
4927 Clarks Valley Rd.
Tower City, PA 17980
(717) 921-2881

Reservoir Park Gatehouse
1901 Walnut Street
Harrisburg, PA 17103
(717) 234-1334

Union Square Booster Station
Union Square Industrial Park
Harrisburg, PA 17101
(717) 561-4212

River Pump Station
3015 N. Front Street
Harrisburg, PA 17110
(717) 234-8347

DeHart Residence #1
4927 Clarks Valley Rd.
Tower City, PA 17980
(717) 921-2874

DeHart Residence #2
4927 Clarks Valley Rd.
Tower City, PA 17980
(717) 921-3882

ADVANCED WASTEWATER TREATMENT FACILITY

ANNUAL REPORT

2002

CITY OF HARRISBURG
COMMONWEALTH OF PENNSYLVANIA

CITY OF HARRISBURG

Bureau of Sewerage
1662 S. Cameron Street
Harrisburg, Pennsylvania 17104

Telephone: (717) 939-7270
Fax Number: (717) 939-2674

Honorable Stephen R. Reed ..... Mayor

Department of Public Works

James M. Close ..... Director
Thomas J. Mealy ..... Deputy Director

Bureau of Sewerage

Thomas J. Mealy ..... Superintendent

Michael A. Deily
C. Richard Fenstermacher
John P. Ingiosi
Robert B. White
Randy L. Schaffer
John F. Williams
Walter J. Williams

THE HARRISBURG AUTHORITY

One Keystone Plaza, Suite 104
Front And Market Streets
Harrisburg, Pennsylvania 17101

Telephone: (717) 232-3777
Fax Number: (717) 232-8590

Trent Hargrove, Esq ..... Chairman
John J. Keller..... Vice Chairman
Leonard L. House ..... Secretary/Treasurer
Suzanne R. Colacicco ..... Member
Frederick A. Clark ..... Member

Thomas J. Mealy ..... Executive Director

CITY OF HARRISBURG

ADVANCED WASTEWATER TREATMENT FACILITY ANNUAL REPORT

2002

TABLE OF CONTENTS

CITY OF HARRISBURG

ADVANCED WASTEWATER TREATMENT FACILITY ANNUAL REPORT

2002

LIST OF EXHIBITS/FIGURES

Figures

CITY OF HARRISBURG

ADVANCED WASTEWATER TREATMENT FACILITY

ACCOMPLISHMENT REPORT

2002

GENERAL

This annual report is prepared for the purpose of furnishing information pertinent to the operation and maintenance of the Harrisburg Advanced Wastewater Treatment Facility (AWTF) during the calendar year 2002. The function of the Harrisburg AWTF is to protect the quality of its receiving waters: namely, the Susquehanna River and the Chesapeake Bay. At the Harrisburg facility, wastewater processing operations include preliminary, primary, and advanced secondary treatment.

Under the direct management of the City of Harrisburg and ownership by The Harrisburg Authority, the treatment facility was properly operated and maintained during 2002. The facility has a permitted capacity of 37.7 MGD while serving an estimated population of 122,000 residents from the City of Harrisburg; the Boroughs of Paxtang, Penbrook, and Steelton; Susquehanna Township; and portions of Lower Paxton and Swatara Townships. Exhibits I through IV have been developed to graphically demonstrate various components needed to achieve this.

Throughout the year, the facility met National Pollutant Discharge Elimination System (NPDES) requirements, with some exceptions. The permit requirements address hydraulic loading and organic discharges established by the United States Environmental Protection Agency and the Pennsylvania Department of Environmental Protection. The resulting overall compliance with the NPDES permit limits was 98.9 percent.

Appended to the end of this report are tabulations based on the statistical information gathered over the year. To graphically demonstrate various treatment characteristics, Figures I through III have been developed.

HISTORY AND DEVELOPMENT

In 1957 the City of Harrisburg created the Harrisburg Sewerage Authority to construct a wastewater conveyance system and primary treatment facilities. The initial project, completed in 1959,

included intercepting sewers, two pump stations, force mains and a 26.8 MGD primary wastewater treatment plant. The treatment plant was designed to remove grit and settleable solids, as well as to disinfect treated wastewater prior to discharge to the receiving stream which is the Susquehanna River. Sludge conditioning was achieved by thickening, anaerobic digestion, elutriation, dewatering and drying or incineration. Sludge disposal techniques included liquid land application, sale of dried sludge to agriculture users and incineration.

In 1969, the City received an order from the Commonwealth of Pennsylvania to upgrade its level of treatment to comply with new Federal water quality standards. After studies to determine the most cost-effective means of achieving upgraded treatment, the City, in 1972, directed the Harrisburg Sewage Authority to proceed with the design of a 30.9 MGD high purity oxygen-activated sludge process with chemical treatment for phosphorus removal. Also, sludge conditioning and disposal were redesigned and relocated to the Dewatering and Drying Building. They included chemical condition prior to vacuum filtration with final disposition of the dewatered sludge being transported to the Harrisburg Steam Generating Facility. The co-disposal option eliminated the necessity of fossil fuels for sludge drying and maximized use of existing City facilities.

Financing of the Harrisburg AWTF was made possible through a $19.6 million construction grant from the United States Environmental Protection Agency and the sale of the Authority's Sewer Revenue Bond issue which provided the local financial match. Construction of the project began in 1976 and it was operational in 1979.

During 1984, the City initiated and the Authority implemented a co-generation project utilizing the digester's methane gas to generate electricity for sale to the Pennsylvania Power and Light Company. The heat, generated from this process is reclaimed via a water-cooled engine jacket and is used to heat the primary digester and plant buildings.

Upon evaluation of the existing sludge dewatering process at the Dewatering and Drying Building in 1989, it was determined to be outdated and inefficient. Consequently, the sludge dewatering process was moved to the main plant with the installation of two Belt Filter Presses and the placement of dewatered sludge on a storage pad for temporary holding prior to hauling to a landfill for disposal.

Other improvements which occurred in the recent past include the relocation of the chlorination system, expansion of the laboratory, and construction of a conference room in 1990. In 1991, one of two air compressors associated with the pure oxygen system was downsized to produce a annual savings of $97,000.00 in electrical charges. A new 10,500 square foot garage was constructed in 1994 to house conveyance and treatment equipment. During the mid 1990's, the original Detritor System was replaced with a Pista-Grit Removal System and a Cyclone Degritter System was installed on the primary sludge process system. As a result of this improvement, the facility received a hydraulic upgrade for daily average flow from 30.9 MGD to 37.7 MGD. The last major upgrade to the facility occurred in 1998 and included the installation of a supervisory control and data acquisition (SCADA) computer system.

PROCESS

The treatment process consists of preliminary, primary, and advanced secondary treatment. The unit processes and equipment can be found in Exhibit 1. Preliminary treatment is designed to remove substances that might be harmful to downstream systems or adversely affect the operation of the treatment plant. Methods and equipment employed to accomplish this include mechanical bar screens at the Front Street and Spring Creek Pump Stations, a pista grit system for raw wastewater, and a hydrogritter for sludge at the main facility.

Primary treatment consists of four sedimentation tanks designed to separate the settleable and floatable solids from the wastewater for appropriate handling. Sludge that accumulates in the tanks is pumped to gravity thickeners, and the treated wastewater is pumped to the secondary treatment units.

To further reduce pollutants at the Harrisburg AWTF, advanced secondary treatment is used. The objective of the secondary system, or activated sludge process, is to convert nonsettleable substances, in colloidal or dissolved form, into biological floc. The biological floc is developed in three pure oxygen aeration tanks and is settled out in six secondary clarifier tanks, providing for a high degree of treatment.

Phosphorus removal is accomplished by a chemical process. Coagulants such as ferric chloride or ferrous sulfate combine with phosphate in the wastewater to form a floc that is subsequently removed in the secondary clarifiers.

Biological and chemical flocs produced in secondary treatment are removed from the six secondary clarifiers. Most of the settled floc is pumped to aeration tanks to seed the process. The remainder is transferred to the two gravity thickeners.

The treated wastewater is disinfected by chlorine prior to discharge into the Susquehanna River. Four chlorine contact tanks provide the required contact time for disinfection as required by regulatory agencies. Disinfection removes or inactivates pathogenic organisms.

The primary and secondary sludges are combined and thickened in two gravity thickeners. The sludge is then pumped to two primary digesters. Anaerobic bacteria in the digesters consume organic matter in the sludge and produce gas containing approximately 60 percent methane. The digester gas is used as an energy source for heating the primary digesters and facility buildings, and as a fuel to operate two 400 kilowatt generators. The primary digested sludge is transferred by gravity displacement to two secondary digesters. These units permit additional sludge decomposition, gravity concentration, and storage of methane gas and sludge.

Ultimate sludge disposal is accomplished by dewatering on a belt filter press. The end product, consisting of approximately 18.0 percent solids, is then placed on a sludge holding pad prior to transporting to a landfill.

OPERATION

The AWTF serves an urban area of 43 square miles. The hydraulic load to the plant averaged 21.9 MGD in 2002, a increase from the 2001 average flow of 20.1 MGD. December was the high flow month with an average of 28.4 MGD, while the lowest flow period occurred in February, with an average of 16.9 MGD.

The organic load to the plant is the measure of pollutant strength and was recorded in terms of biochemical oxygen demand (BOD), suspended solids (SS), and phosphorus (P). The annual average daily values were 136 mg/l, 125 mg/l, and 3.5 mg/l, respectively. In terms of poundage, the BOD average was 24,840 pounds per day, the SS averaged 22,831 pounds per day, and the P average was 639 pounds per day. Organically, the 2002 values were more than 2001's data with the exception of P. The former yielded 22,748 lbs/day BOD, 20,384 lbs/day SS, and 653 lbs/day P.

The yearly average effluent carbonaceous biochemical oxygen demand (CBOD) per day was 6 mg/l or 1,096 pounds, SS averaged 16 mg/l or 2,922 pounds, and P was 1.5 mg/l or 274 pounds. The destruction of pathogenic organisms, as measured by the fecal coliform analysis, averaged 83/100 ml on the year while using a monthly average of 5,313 pounds of chlorine disinfectant.

Operation removal efficiency varied nominally in 2002. Primary removals averaged 41 percent for BOD and 29 percent for SS. Compilation of secondary treatment removal (primary inclusive) recorded 95 percent for CBOD, 85 percent for SS, and 55 percent for P.

Sludge handling and processing consists of a variety of operations that incorporate concentration, stabilization, dewatering, and landfilling. The average daily removal of solids during 2002 was 7.8 dry tons per day. The cost per dry ton of solids averaged $274 per ton and consisted of an average of 18.0 percent solids. The total of wet solids placed in landfills during the year was 15,884 tons.

On November 1, 1996, The Harrisburg Authority was issued a new NPDES permit by the Department of Environmental Protection which contained all regulated effluent parameters. The requirements of this NPDES permit will be in effect until midnight, October 31, 2001. This Renewal Process is currently underway, with a "Draft NPDES Permit" circulated and posted in July of 2002.

The values referred to in this section can be found in Exhibits V through X.

MAINTENANCE

The responsibilities of the Maintenance Division include the maintenance of all properties of the Harrisburg AWTF. Mechanical problems that did occur were corrected in a minimal amount of time. Many would-be breakdowns were averted through a preventive maintenance program and a systematic replacement policy for inventory parts. City expenditures for repairs and replacement of treatment equipment totaled $374,090.60.

Major projects completed by this division in 2002 included:

BELT FILTER PRESS

- Replaced the rubber squeegees on the head and wash boxes for Belt Filter Press Number 1 and 2.
- Replaced two spiral rollers and bearings on Belt filter Press Number 1.
- Replaced two dewatering drum screens on Belt Filter Press Number 1.
- Repaired the shaft and replaced the gears on the equalizer bar for the lower belt tensioner on Belt Filter Press Number 2.
- Replaced the perforated plate and lower belt tension roller and bearings on Belt Filter Press Number 2.
- Replaced the pump and batch counter on the Stranco Polyblend Unit Number 1 for the Belt Filter Presses.
- Replaced the disperser motor in the Number 1 Stranco Polyblend System in the Belt Filter Press Building.
- Installed an air line to use plant air for the Stranco Polyblend Units at the Belt Filter Press Building.
- Rebuilt the pump in the polymer mixing tank for the Number 2 Stranco Polyblend System in the Belt Filter Press Building.
- Fabricated and installed new brackets for the gearbox and motor on the horizontal conveyor for the Belt Filter Presses.
- Replaced one troughing, three flat idler rollers, and the belt splice on the horizontal conveyor for the Belt Filter Presses.
- Replaced the tail roller and bearings on the incline conveyor for the Belt Filter Presses.
- Installed a filtrate sample sink in the basement of the Belt Filter Press Building.

BOILER BUILDING

- Replaced the thirty pounds per square inch relief valve on the Number 1 Boiler in the Boiler Building.
- Installed a drip leg on the gas pressure regulator for the gas boilers in the Boiler Building.

CHEMICAL STORAGE BUILDING

- Welded the motor bracket and replaced the belt on Power Vent Number 11 on the roof of the Chemical Storage Building.
- Replace the three primary filters on Joy Compressor Number 1 in the Chemical Storage Building.

CHLORINE BUILDING

- Replaced the pressure check relief valve and the shut off valves for the chlorinators in the Chlorine Building.
- Rebuilt the vacuum regulator for the chlorinators in the Chlorine Building.

CITY ISLAND PUMP STATIONS

- Cleaned and treated the wood cat walks and steps for the electric equipment at the City Island Pump Stations.
- Rebuilt the four air release valves for the sewage pumps at the City Island Pump Stations.

CO-GENERATION BUILDING

- Rebuilt the auxiliary water pump on the Number 1 Enginator in the Co-Generation Building.
- Replaced the turbo charger on the Number 2 Enginator in the Co-Generation Building.

COMPRESSOR BUILDING

- Rebuilt the Number 1 Ingersoll Rand Gas Compressor.
- Cleaned and lubricated the valve unloaders on the Number 1 Ingersoll Rand Gas Compressor.
- Installed drip legs to drain the moisture from the instrumentation lines for the Ingersoll Rand Gas Compressors.
- Replaced the air compressor for the Gas Compressor valve unloaders in the basement of the Digested Sludge Pump Station.

CONTROL BUILDING

- Installed wire, pipe, relays, and an air horns for the emergency alarm system in the Laboratory and Belt Filter Press Areas.
- Installed the Breeze Com System at the Harrisburg Advanced Wastewater Treatment Facility.
- Installed a Marlow SPX100 sludge feed pump and associated piping in the basement of the Control Building.
- Replaced the peristaltic hose and fluid in the two Marlow Filter Feed Pumps in the basement of the Control Building two times each.
- Replaced the acetylene regulator, hose, and fittings for the Atomic Absorption Unit in the Laboratory.
- Replaced the motor for the wash water booster pump for Belt Filter Press Number 1 in the basement of the Control Building.

DEGRITTER BUILDING

- Replaced the intermediate and top cone liners on the Dorr-Oliver Cyclone in the Degritter Building.
- Replaced the drive chain on the Door-Oliver Grit Classifier in the Degritter Building.

DIGESTED SLUDGE PUMP STATION

- Cleaned and lubricated the gas meter for the waste gas burner in the basement of the Digested Sludge Pump Station.

DISTRIBUTION BOX

- Replaced the refrigerator in the American Sigma Sampler at the Distribution Box.

FINAL SETTLING TANKS

- Repaired and adjusted the scum collection arms in Final Settling Tanks Number 2 and 4.

FRONT STREET PUMP STATION

- Installed a rebuilt pump and repaired the float assembly on the condensate tank at the Front Street Pump Station.
- Installed double doors, locks, and panic bar assembly between the wet well and dry side at the Front Street Pump Station.
- Replaced the hydraulic cylinder for the Hycor rag removal system at the Front Street Pump Station.
- Replaced three attachment links on the Number 2 Bar Screen at the Front Street Pump Station.

GARAGE

- Fabricated and installed racks in the Garage to hold the salt spreaders and sheet metal.
- Replaced the forward/reverse switch in the Forklift.

GREASE PIT

- Replaced the motor and belts on the Carter Grease Pump.

MAIN PLANT

- Installed a slide gate and auto opener at the entrance to the Harrisburg AWTF.
- Installed a remote audio visual surveillance system to monitor the Automatic Gate.
- Installed new 6 inch fence poles and a 32 inch man gate at the entrance to the Main Plant.

OXYGENATION GENERATION EQUIPMENT

- Performed the annual Unox turnaround preventive maintenance and instrument calibrations.
- Replaced the motor for the turbine oil pump for the Oxygenation Generation Equipment.
- Replaced the liquid transfer line and insulation to the Oxygen Storage Tanks.
- Replaced the regulator, solenoid valve, and supply line for the Oxygenation Generation Equipment Make Tank controls.

PISTA GRIT

- Removed the pump assemblies and pipe flanges to vactor and flush the lines on Pista Grit Chambers Number 1, 2, 3, and 4.
- Replaced the bladders in the pinch valves at Pista Grit Chambers Number 1 and 3.

PRIMARY DIGESTERS

- Replaced the gear operator on the 10" valve for Heat Exchanger Number 1 in the Primary Digester Control House.
- Rebuilt the Number 2 Sludge Recirculating Pump in the basement of the Primary Digester Control House.
- Replaced the transformer in the controller for the Vaughan Chopper Pump in Primary Digester Number 2.

PRIMARY SETTLING TANKS

- Replaced the refrigerator in the primary effluent sampler at the end of the Primary Settling Tanks.

RETURN SLUDGE PUMP STATION

- Installed a rebuilt pump assembly in the Number 4 Return Sludge Pump and serviced Number 1, 2, and 3 Return Sludge Pumps.

SETTLED SEWAGE PUMP STATION

- Repaired the break in the effluent water line outside of the Settled Sewage Pump Station.
- Rebuilt the Number 3 Effluent Pump in the basement of the Settled Sewage Pump Station.

SPRING CREEK PUMP STATION

- Replaced the pump, the motor bearings, and the coupling for the seal water at the Spring Creek Pump Station.
- Installed alarm systems at the Market Street and Spring Creek Pump Stations.

FIELD MAINTENANCE

The Field Maintenance Division is responsible for the integrity of the conveyance system and the minimization of combined sewer overflows (CSO's). The division also has the added responsibilities of pump station routine maintenance and debris clearance from waterways.

Projects completed by this division in 2002 included:

- Changed the grease fittings as needed and lubricated all equipment on the Regulating and Flood Chambers.
- Cleaned and washed down all twelve siphon basins six times each.
- Dye and smoke tested the buildings in the 400 through 1000 blocks of Market and Walnut Streets.
- Dye tested the sewer lines in the 1000 block of Herr Street.
- Flushed the sewer lines in the Chemical Storage Building.
- Flushed the sewer lines in the basement of the Control Building.
- Flushed the drain line and cleaned the catch basin in the garage of the Hydrogritter Building.
- Flushed and vactored seven inlets at the south end of the Harrisburg AWTF.
- Flushed and vactored the sewer line from 3rd and Wisconisco to Front Street so the line could be televised.
- Inspected five blowout chambers with no maintenance or painting required.
- Inspected the Spring Creek, Paxton Creek, Asylum Run, Hemlock Street, and Paxton Creek Relief Interceptors. The inspections were performed twice to determine the condition of the interceptors.
- Installed 200 (Drains To River) signs at various storm water inlets along the Susquehanna River and Paxton Creek.
- Painted the manhole covers over the Asylum Run, Front Street, Hemlock, Paxton Creek, and Spring Creek Interceptors for the aerial photography.
- Replaced eight Combined Sewer Overflow signs along the access steps and ramps going down to the Susquehanna River.
- Pumped and removed grit from the Primary Settling Tanks during repair downtime by maintenance.
- Pumped and flushed all the lines associated with the Pista Grit System.
- Removed 366.30 ton of debris from the Grit Lagoon.
- Removed debris from the Susquehanna River along the bank and steps.
- Removed trees and debris from various locations along Paxton Creek and Spring Creek on an as needed basis.
- Raised the weirs at Diversion Chambers Number 6 and 12.
- Repaired the 6 inch sewer line in the 1000 block of Market Street.
- Repaired storm washout area at Front and Hamilton Streets.
- Updated the CSO reports for the current year.
- Vactored the Final Settling Tanks Number 1, 2, 3, 4, 5, and 6.

- Vactored the Sludge Thickener Tanks Number 1 and 2 waste pits.
- Vactored the Main Plant grease pits on a weekly schedule.
- Vactored and washed the dry wells at the Primary Tanks.
- Vactored the wet well at the Plant Drain Pump Station.
- Vactored the sump pump pit in the Pista Grit Garage.
- Washed and parged the walls of the Front Street Interceptor manholes at State Street, Market Street, and Mulberry Street.
- Washed and parged the walls of the Hemlock Street Interceptor manhole on the north side of the Green Belt Bridge.
- Washed down fifty-eight regulating chambers and forty-six flood chambers and lubricated the gates. This activity was performed at least two times during the year at each chamber.
- Washed down one hundred and seventy-four manholes over the interceptors.

BUDGET

The budget, as prepared by management, is intended to control expenditures while insuring efficient facility operations and to balance receipts and revenues collected during the budget year. The treatment facility had an operating expense of $9,316,886.74 and a total annual cost of $11,835,751.50, debt service cost inclusive. The revenues derived during the budget year were $11,668,787.89. Refer to Exhibit XI for additional information on the 2002 expense and revenue budgets.

LABORATORY

The laboratory is a subdivision of the Operations division, providing technical data and support for the operation of the wastewater treatment facility. Daily analysis for all permitted parameters was performed on the influent and effluent, as well as intermediary flows. Daily testing also included the analysis of processed sludges and by-products. The laboratory staff collected and analyzed samples for the industrial user monitoring program and analyzed the samples required for the continuation of the contract waste hauling program.

In 2002 the laboratory analyzed forty-eight permit scans, one hundred and four surveillance scans, eighty-three industrial monitoring surveys, and nine hundred and ninety-nine routine hauler analyses with an average turnaround time of less than twenty-four days. Testing required for the contract waste hauler and industrial monitoring programs generated $49,077.75 in laboratory revenue.

Throughout this time, the laboratory maintained its program for annual US EPA Priority Pollutant monitoring on influent, effluent, and sludge cake. To fulfill landfill sludge disposal requirements, annual PA DEP Form 43 analyses were performed on sludge cake, and all necessary records were maintained. In addition to the daily routine testing, metals were analyzed weekly on influent, effluent and sludge cake, with monthly testing of all other process waters, sludges and by-products. Local Limit parameters were analyzed monthly. Detailed nitrogen analyses were performed quarterly as mandated by the permit.

Calendar year 2002 again saw quality assurance as a top priority with an objective to improve the accuracy and precision of the data generated by the laboratory. A Proficiency Environmental Testing Program offered by Analytical Products Group, Inc. (APG) provided the laboratory with quarterly quality assurance samples and statistical review of results. Exhibit XII details the performance of the laboratory during its 2002 voluntary participation in this program. In addition to the APG testing, an internal quality assurance program was continued. This included analysis of blank duplicate and spiked samples. Also, US EPA certified samples of known values were analyzed on a regular basis as a verification of internally prepared standards. If the results of any quality assurance testing did not fall within the laboratory's control limits, the entire analysis was repeated. Quality assurance records were maintained to summarize results of all calibrations testing and instrument performance. This simplifies a method for technicians, supervisors and inspecting agencies to trace progress.

Monthly sampling and analysis of Paxton Creek and the Susquehanna River was performed to determine baseline characteristics of each waterway. Sampling was also performed during rainfall events to determine the impacts of runoff to the waterways. Areas of concern were identified and interdepartmental work in conjunction with the Bureau of Codes eliminated undesirable discharges to Paxton Creek. Combined Sewer Overflows were monitored manually and by automatic sampling devices to determine their potential impacts. The information generated will be used for NPDES permit mandates for the CSO Long Term Control Plan .

In anticipation of the new permit requirements, background domestic waste sampling was incorporated into the laboratory monitoring routine. By determining domestic and industrial contributions along with a headworks analysis, local limits can be re-evaluated. The testing for metals was refined by concentration of samples and the use of graphite furnace methodology resulting in lower detection limits.

In the 2002 EPA-DMR Quality Assurance Evaluation, the standard measure of a testing laboratory's performance, the laboratory analyzed all permitted parameters within US EPA acceptance limits. Additionally, analyses for biochemical oxygen demand, orthophosphate, oil and grease, chemical oxygen demand, arsenic, cadmium, copper, chromium, lead and nickel, all of which were not requisites, were completed with excellent results. Exhibit XIII highlights the laboratory's evaluation received by US EPA.

INDUSTRIAL WASTE PRETREATMENT PROGRAM

The function of the EPA Industrial Waste Pretreatment Program is to ensure that industrial users (IUs) comply with applicable federal, state, and local pretreatment program effluent discharge limitations and regulations. Industrial user compliance eliminates interferences or possible damage to the conveyance and treatment system, untreated waste from passing through the AWTF to the receiving stream, the contamination of sludge which limits disposal and reuse options, and exposure of personnel to chemical, explosion, or fire hazards.

During the year, one additional significant industrial user[1] was permitted. The total number of permitted industrial users in 2002 was twelve. Ending 2002, the total number of permitted industrial facilities remained at twelve. Of the twelve permitted industrial users, four are classified as categorical and eight as noncategorical industrial users.

No compliance schedules were issued during 2002 and the number of permitted industrial users on a formal compliance schedule is zero.

Inspection and sampling activities performed by the City during the year included facility inspections, self monitoring inspections, and compliance sampling. In 2002, one industrial waste survey facility inspection, thirteen facility inspections, and fourteen self monitoring inspections were performed at twelve industrial facilities. Compliance sampling schedules remained at twice annually for three consecutive days with each day providing a separate sample. Additional monitoring is performed when necessary. The total number of significant industrial users sampled for compliance monitoring was twelve and encompassed eighty-three sampling visits. Of the four significant industrial users not sampled through three consecutive days, three are landfills with a uniform and seasonal discharge and one is a ground water remediation system.

Self monitoring sampling and reporting activities for significant industrial users remained at quarterly for conventional pollutant dischargers and monthly for metal and organic priority pollutant dischargers. The total number of significant industrial users required to submit a self monitoring report was eleven and the total number of self monitoring sampling events was one hundred and twenty-two. Of the two significant industrial users not sampling or sampling intermittently during the year, one is a landfill with a seasonal discharge which certified to zero discharge during the third quarter of 2002, and one is a landfill where the City opted to perform quarterly compliance sampling. In this instance, self monitoring and reporting is not required.

During the 2002 calendar year, ten violation notices were issued. Nine letters of violation were issued for noncompliance with effluent discharge limits. Where noncompliance persisted or an industry did not return to compliance within a satisfactory time frame, significant noncompliance enforcement action is taken. One letter of violation was issued for a significant noncompliance effluent discharge limit technical review criteria violation. In this instance, public notification was required.

For additional details on industrial users' performance, please refer to the exhibits listed below:

Exhibit XIV	-	Pretreatment Performance Summary
Exhibit XV	-	Regulated Industrial Users 2002
Exhibit XVI	-	Enforcement Actions 2002
Exhibit XVII	-	Compliance Sampling/Inspection Schedule 2003
Exhibit XVIII	-	Annual Newspaper Publication of 2002 Significant Noncompliance Violators

(1) Significant industrial user as defined by Title Nine, Part Five, Section 9-501.1 of the City's Codified Ordinances means all categorical industrial users or any noncategorical industrial users that:

A). Have a discharge flow of 25,000 gallons per day or more per average workday of process wastewater, or

B) Have an average process flow which makes up five percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or

C). Have a reasonable potential in the opinion of the Control or Approval Authority to adversely affect the treatment plant through inhibition, pass through of pollutants, sludge contamination, or endangerment of AWTF workers, or to violate any pretreatment standard or requirement.

PRETREATMENT PROGRAM DEVELOPMENTS

During the 2002 calendar year, the AWTF did not experience an upset or permit violation attributed to the indirect discharge of industrial waste. NPDES permit violation(s) caused by something other than an industrial discharge is explained as follows: Monthly average ammonia concentration limit exceedances are due to lower than normal flows due to drought conditions that continued through 2002. In order to monitor toxic and incompatible pollutants, various analyses were performed on the plant's influent, effluent, and sludge. The results of this activity are detailed in Exhibits XIX, XX, and XXI, respectively. Influent, effluent, and sludge average metals concentrations for current and past years are graphically illustrated in Figures I, II, and III.

Interpretation of influent metals concentration trends contained on Figure I show a minor increase in zinc and copper concentrations. The cadmium concentration shows a slight increase and chromium, nickel, and lead concentration trend lines show a slight decrease in 2002 due to a change in the test method detection level. Arsenic, cyanide, and mercury concentrations show no appreciable amounts detected in 2002.

Interpretation of effluent metals concentration trends contained on Figure II show a slight increase in cadmium and copper concentrations and a slight decrease in chromium, lead, and nickel concentrations in 2002 due to a change in the test method detection level. The zinc concentration shows a downward trend after increasing in 2001. Arsenic, cyanide, and mercury concentrations show no appreciable amounts detected in 2002.

Interpretation of filter cake or sludge metals concentration trends contained on Figure III show the zinc concentration trend line appears to have leveled off after increasing in 2000. The high level of zinc is attributed to the use of a zinc based corrosion inhibitor in the City's water supply. Copper and lead concentration trend lines show no upward or downward trend since decreasing in 2000. Also, cadmium, chromium, and nickel concentrations showed no upward or downward trend in recent years. Arsenic, cyanide, and mercury concentrations show no appreciable amounts detected in 2002.

Local limits were approved on September 30, 1988, by the US EPA and adopted by the City of Harrisburg on October 28, 1988. The local discharge limitations were developed with the assistance of the US EPA computer program PRELIM and are based on the allowable headworks loading method and a safety factor of twenty-five percent. Allocation of the daily maximum allowable industrial loadings of the pollutants was achieved by the uniform concentration technique based on total industrial flow.

A toxics reduction evaluation (TRE) was completed on October 9, 1991, as a part of Harrisburg's NPDES permit renewal process to verify the presence or absence of toxic pollutants in the discharge. As a result of the TRE, a new zinc local limit was adopted by the City of Harrisburg on June 24, 1992, and approved by the US EPA on May 19, 1993. The zinc local discharge limitation was developed with the assistance of the US EPA computer program PRELIM and is based on the allowable headworks loading method and a safety factor of twenty-five percent. Allocation of the daily maximum allowable industrial loadings of the pollutants was achieved by the uniform concentration technique based on total industrial flow.

In addition to the development of the daily maximum loadings, instantaneous maximum concentrations in grab samples have also been calculated. The instantaneous maximum values were determined by multiplying the daily maximum concentration, where applicable, by a factor of two. A multiplier of two was chosen to correspond to the same multiplier used by the Commonwealth of Pennsylvania's Department of Environmental Protection in developing the instantaneous maximum values in Harrisburg's NPDES permit.

Industrial Waste Pretreatment Program changes that occurred in 2002 were the following: The receipt of a completed industrial waste survey baseline monitoring report, an industrial wastewater discharge application, and issuance of a five year industrial user permit to Sunoco Incorporated; established the flow proportional sampling pulse output parameter for the flow meter to sampler interface for compliance sampling at Ames True Temper Incorporated, Harrisburg Dairies, Inc., the Harrisburg Steam Generating Facility, and Stroehmann Bakeries, Inc.; incorporated the self monitoring report form into an MS Excel format and disseminated to all industrial users for use as an electronic form; and, updated the industrial user local discharge limits database.

The last pretreatment audit was conducted on March 24, 2001, by US EPA representative William F. Gersting. The recommended changes were implemented as follows: Amended the Ames True Temper Incorporated, Harrisburg Dairies, Inc., the Harrisburg Steam Generating Facility, and Strochmann Bakeries, Inc. industrial user permits to incorporate a flow proportional sampling provision: revised the facility inspection report form to include a provision to access the need for a spill prevention, contingency and control plan and to access whether good housekeeping procedures are being implemented; revised the self monitoring report form to include the date an industrial user's contract testing laboratory was inspected; revised the sample chain of custody forms to include chlorine and sulfide field tests; revised sampler icing protocol by switching from ice packs to ice. The present and pending program changes, where applicable, have been submitted to the US EPA for approval.

CONTRACT WASTE HAULING PROGRAM

The AWTF continues to be well-known in Central Pennsylvania as a sludge disposal center for process and septic waste. The objectives of the Contract Waste Hauling Program (CWHP) are to 1) provide an alternate sludge disposal method to regional POTW's, food processing companies, and septic waste haulers; 2) collect permit, disposal, and laboratory fees in excess of expenses; and 3) increase digester gas production by decomposition of the waste by-products. Correspondingly, with increased gas production, there is an increase in cogeneration electrical sales.

A computer program is utilized by AWTF personnel to facilitate the administration of the CWHP. The program maintains customer information, controls daily transactions, produces invoices, and keeps complete accounting records for each customer. Computerization has reduced manual tasks, minimized errors, and structured CWHP activities.

All waste accepted at Harrisburg must meet certain criteria outlined in the Contract Waste Hauling Program Manual to insure the protection of AWTF personnel, structures, equipment, processes, and sludge disposal options. To insure that all waste complies with AWTF requirements, routine monitoring is performed by the facility's Laboratory.

Monitoring is accomplished through either a complete scan upon permit application submittal, surveillance scans, or routine sampling of waste throughout the course of the year. In 2002, forty-eight permit scans, one hundred and four surveillance scans, and nine hundred and ninety nine routine samplings were performed.

Disposal permits are issued for a one-year period, and each hauler is categorized as handling either process or septic waste. In 2002, thirty-five process and four septic disposal permits were issued; accordingly, $1,850.00 in permit application fees were collected. Disposal activities accounted for $536,257.33 in revenue, while an additional $27,342.00 was attributable to the sale of electricity based on an increase in methane gas production from the digestion of Contract Waste Hauling sludge. Additional details may be found on Exhibit XXII and XXIII.

COGENERATION PROGRAM

The cogeneration process utilizes methane gas produced in the anaerobic digestion process to fuel two 400 kilowatt generators. In turn, the generators produce electricity and heat. Electricity is sold to the Pennsylvania Power Light Electric Utilities at a rate of $0.06 per kilowatt hour. Waste heat from the generators is used for space heating at the facility and for heating the Primary Digesters.

The cogeneration system utilizes a six cylinder internal combustion engine and uses methane gas produced in the digesters as a fuel. Connected to the engine is a 400 kilowatt electrical generator. Heat is recovered from the engine's cooling system.

During 2002, the cogeneration facility operated 52 percent of the time. The average monthly kwh production rate was 149,087, with a yearly total production of 1,789,040 kwh. The average monthly revenue collected was $8,943, with a yearly total of $107,342. The total revenue collected was more than the 2002 budgeted amount. The revenue increase was attributable to the increase in gas due to the increase in the Contract Waste Hauling Program. Refer to Exhibit XXIV for complete details.

LOSS CONTROL PROGRAM

The Loss Control Program was established in 1985 with the objective of providing a work-place environment that precludes injury or illness to employees or harm to the community.

Specific parameters are 1) an executive representative responsible for activation and coordination of loss control activities; 2) a Safety Committee comprised of various subcommittees and headed by the

Safety Director; 3) accident investigation and maintenance of records; 4) training and educational development to recognize hazards; and 5) control of physical, mechanical, and operational hazards.

Under the direction of the Training and Educational Committee, a video library was established. The library consists of a television, VCR equipment, and videotapes ranging from Eye Safety to Confined Space Safety. Each quarter, the Safety Director selects a tape from the library which is played and viewed by all attending the quarterly Safety Meeting. The present video library has grown to fifty-two safety topics and seventeen training programs. The training tapes have proven valuable as a reliable source of important information.

Monthly handouts include "Safety Now" and "Staying Safe". These handouts continue to provide management staff with information relative to safety management and awareness.

In order to reduce health-associated costs through prevention, an on-site physical fitness room was constructed and now offers employees a place to exercise and work out using various pieces of equipment. Providing employees with health-associated programs can provide a positive, healthier environment and encourage healthier habits.

CAPITAL PROJECTS

The Harrisburg Authority issued Sewer Revenue Bonds, Series A of 1988, in the principal amount of $12,700,000, and Sewer Revenue Bonds, Series B of 1988, in the principal amount of $6,065,000.

The following summarizes the improvements made in 2002 to the Sewage Conveyance and Treatment System from the proceeds of the 1988 Series A Bonds. The various projects were designed to address sludge processing, system upgrades, and increased hydraulic capacity.

- Continued to implement the vehicle fleet replacement program by purchasing two three-quarter ton pick-up trucks and one and one-half ton pick-up truck.

- Purchase of a peristalic pump for dewatering of collected floatable material at the Harrisburg AWTF.

- Began a re-painting project at Front Street and Spring Creek Pump Stations.

The Harrisburg Authority did not pursue any sewage collection system projects relative to the Series B Bonds in 2002, because all monies have been expended.

CITY OF HARRISBURG

ADVANCED WASTEWATER TREATMENT FACILITY

GOALS AND OBJECTIVES

2003

CAPITAL PROJECTS

The Harrisburg Authority issued Sewer Revenue Bonds, Series A of 1988, in the principal amount of $12,700,000, and Sewer Revenue Bonds, Series B of 1988, in the principal amount of $6,065,000.

The following summarizes the status of unfinished or unaddressed improvements to the Sewage Conveyance and Treatment System from the proceeds of the Series A Bonds. The projects will be initiated or completed during the 2003 calendar year.

SERIES A BONDS
SEWAGE CONVEYANCE AND TREATMENT SYSTEM

- Continue to implement the Vehicle Fleet Replacement Program, by purchasing of a Vactor Truck.
- Completion of the painting project at Front Street and Spring Creek Pump Stations.

SERIES B BONDS
SEWAGE COLLECTION SYSTEM

- No projects are anticipated because monies in the Construction Fund have been depleted.

OPERATION

- The Harrisburg AWTF has continued to explore and evaluate other options for achieving nitrification/de-nitrification. Two pilot plant studies were conducted during 2002. Summary of all efforts to date to be formalized early 2003.
- Modify the configuration of the Pista Grit grit removal system. These changes should improve the overall operating efficiency.

MAINTENANCE

- Replace the 8 inch sludge valve and gear operator for Primary Settling Tanks Number 1 and 2.
- Replace the Carter Grease Pump at the Chlorine Contact Tanks.
- Replace the cat walk grating in the basement of the Spring Creek Pump Station.
- Replace the lighting fixtures on the first floor and dock areas of the Spring Creek Pump Station.

LABORATORY

- Continue monthly monitoring of permit parameters in the Paxton Creek and Susquehanna River. Stormwater contributions will be sampled at different times of the year. Bioassessment will be attempted to determine its merit for our particular application.
- Update and revise the Laboratory Standard Operating Procedures manual with more detail and graphics.
- Streamline the analysis of metals by incorporating multi-element calibration standards, larger sample volumes and semi-automated progressive analyses.

PRETREATMENT

- Complete the local limits re-evaluation for the new NPDES permits.
- Reissue a five year industrial user permit to the Norfolk Southern Corporation and the Swatara Township Landfill.

EXHIBIT I

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Unit Process and Equipment

Design Flow:	
Average (MGD)	37.7
Maximum (MGD)	64.1
Design Loadings:	
BOD (mg/l)	230
Suspended Solids (mg/l)	210
Phosphorus (mg/l)	10
NH3-N (mg/l)	15
pH	6.5-8.5
Grit Removal:	
Pista Grit Chambers	4
Dimensions - Circular	
Diameter (Ft.)	16
Maximum Water Depth (Ft.)	7
Volume Treated per Chamber (MGD)	20
Maximum Volume Treated (MGD)	80
Sludge Degritting	
Hydrodegritter	1
Primary Clarification:	
Primary Settling Tanks	4
Dimensions (Each)	
Length (Ft.)	270
Width (Ft.)	35
Average Water Depth (Ft.)	8.2
Capacity (Gallons)	581,175
Surface Area (Total Sq. Ft.)	30,800
Detention Time (2000 Flow-MGD26.1)	
(Hours)	2.14
Primary Treatment Removal Rates - 2000 Data	
BOD Removal (Percent)	36
BOD Removal (Lbs. Day)	9,560
Suspended Solids (Percent)	48
Suspended Solids (Lbs. Day)	12,434

Activated Sludge Oxygenation:	
Trains	3
Stages Per Train	4
Dimensions Per Stage	
Length (Ft.)	50
Width (Ft.)	50
Average Water Depth (Ft.)	14
Liquid Volume (Total Gallons)	3,156,000
Oxygen Generation	
Air Compressors	2
HP	1,000
Capacity (Each)	CFD
Distillation Column	1
Oxygen Capacity (Tons Per Day)	50
Detention Time (2001 Flow 20.1 MGD)	
2 Trains (Hour)	2.5
3 Trains (Hour)	3.75
Secondary Clarification:	
Final Settling Tanks	6
Dimensions (Each)	
Length (Ft.)	102
Width (Ft.)	102
Side Water Depth (Ft.)	12
Liquid Volume gls (Each)	933,900
Surface Area (Total Sq. Ft.)	62,400
Detention Time (2001 Flow-MGD 20.1 MGD)	
4 Tanks (Hours)	4.46
5 Tanks (Hours)	5.58
6 Tanks (Hours)	6.69
Sludge Handling:	
Thickening Tanks	2
Dimensions	
Diameter (Ft.)	80
Side Water Depth (Ft.)	10
Free Board (Ft.)	1.5
Volume (Total Gallons)	968,775
Weir Length (Total Ft.)	503

EXHIBIT I (Continued)

Primary Digesters:	2
Dimensions	
Diameter (Ft.)	90
Side Water Depth (Ft.)	35
Cone Depth (Ft.)	10.67
Free Board (Ft.)	2
Effective Volume (Each)(Gallons)	1,833,800
Type-Fixed Cover, High Rate, Complete Mix	
Secondary Digesters	2
Secondary Digester No. 3:	
Dimensions	
Diameter (Ft.)	85
Side Water Depth (Ft.)	28
Core Depth (Ft.)	10.12
Effective Volume (Gallons)	924,100
Type-Fixed Cover	
Secondary Digester No. 4:	
Dimensions	
Diameter (Ft.)	85
Side Water Depth (Ft.)	26
Core Depth (Ft.)	10.12
Effective Volume (Gallons)	839,300
Type-Gas Holder Cover	
Gas Holder Storage Volume (Cu. Ft.)	55,500
Methane Gas Storage:	
Gas Sphere	1
Dimensions	
Diameter (Ft.)	42
Operating Pressure (psig)	50
Capacity (Cu. Ft.)	38,793
Methane Content (Percent)	63
Sludge Dewatering:	
Belt Filter Presses	2
Width (Inches)	100
Cogeneration System:	
Driver Units	2
Type-Internal Combustion (Cycles)	4
Make-Waukesha Model VHP 2900GSI	
No. of Cylinders	6
Fuel-Digester Gas	
Fuel Consumption (Cu. Ft./Day)	50,000-180,000
Generator Units	2
Type-Induction	
Make-Kato Engineering	
Output-400 KW, 480 V AC at 1,200-1,210 RPM	

Phosphorus Removal Feed System:	
Storage Tanks	3
Tank Volume (Each)(Gallons)	7730
Chemical Pumps	2
Disinfection Feed System:	
Chlorinators	2
Chlorine Cylinders' Type (Ton)	1
Cylinders in Service	2
Feed Capacity (Lbs./Day)	1,000
Chlorine Contact Tanks	4
Dimensions	
Width	24
Length	100
Depth	10
Volume (Each)	180,000
Detention Time (Min.)(2000 Flow 26.1 MGD	40
Boiler Building:	
Boiler Type	Weil-McLain
Capacity (BTU/hr.)	6,391,141
Burner Fuel (Dual)	Methane/#2 Fuel Oil
Burner Capacity	12,833 CFH Methane
	55 gph #2 Fuel Oil
Model	PGL-2394-WF
Settled Sewage Pump Station	
Variable Speed Pumps	2
Constant Speed Pumps	2
Hoffman Air Blowers	2
Pump Capacity(Per Pump)	15,000 gpm
Pump Station Capacity	86.4 MGD

EXHIBIT II

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Facilities Flow, MGD

PA 0027197

	Design		Actual 2002		Five Year Projection	
Location	Average	Peak	Average	Peak	Average	Peak
Conveyance:						
Paxton Creek	---	29.0	13.6	18.2	15.0	29.0
Asylum Run *	---	11.6	2.3	2.9	2.6	11.6
Paxton Creek Relief *	---	10.1	2.5	4.1	3.2	10.1
Front Street**	---	19.0	3.7	9.5	5.4	19.0
Spring Creek	---	18.7	5.6	6.4	7.2	18.7
Hemlock Street	---	4.5	0.3	0.3	0.5	4.5
Pump Stations:						
Front Street	21.6	43.2	14.6	19.2	17.3	43.2
Spring Creek	10.0	28.9	5.8	7.5	7.4	28.9
Steelton	1.6	3.3	1.5	1.9	1.8	3.3
Treatment Plant	37.7	75.4	21.9	28.4	27.2	75.4

* Flow included in Paxton Creek

** Database corrupt for 2002, used 2001 Data

EXHIBIT III

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Conveyance System 2002

Conveyance System	Size Range (Inches)	Approximate Length (Feet)	Division and Flow Regulators	Servicing Pump Station	Collection Systems Served
Interceptor:					
Spring Creek	18 - 34	11,500	No	Spring Creek	Harrisburg, Swatara, Paxtang, Susquehanna, Penbrook, Lower Paxton
Hemlock	8 - 24	3,800	Yes to Paxton Creek	Spring Creek	Harrisburg
Front Street	30 - 43	21,000	Yes to Susquehanna River	Front Street	Harrisburg, Susquehanna
Paxton Creek	48 - 60	14,000	Yes to Paxton Creek	Front Street	Harrisburg, Susquehanna, Lower Paxton, Penbrook
Paxton Creek Relief	48	4,900	No	Front Street	Harrisburg, Susquehanna, Lower Paxton, Penbrook
Asylum Run	15 - 24	8,200	No	Front Street	Harrisburg, Susquehanna, Lower Paxton, Penbrook
Total		63,400			
Force Main:					
Front Street	48	7,000	No	Front Street	Harrisburg, Susquehanna, Lower Paxton, Penbrook
Spring Creek	20	50	No	Spring Creek	Harrisburg, Swatara, Paxtang, Susquehanna, Penbrook, Lower Paxton
Total		7,050			
Collection System:	8 -4'-7"x7'	696,960	No	Market Street, City Island I and II	City of Harrisburg owner comprised of 80% combined sewers, 20% sanitary sewers and 3,637 City inlets and 1,014 private inlets.

Raw Wastewater Average Concentration Characteristics in mg/l

Class *	pH	BOD	TSS	PO4	NH3-N	O G	Cn	Ag	As	Cd	Cr	Cu	Hg	Mo	Ni	Pb	Se	Zn	PCB's
Residential	7.17	169	96	3.1	13.8	29.0	.005	.005	< 025	0.005	<.005	040	<.0005	<.01	<.005	<.005	<.01	0.31	<.001
Industrial	7.64	693	277	22.6		12.7	013	003	005	.024	071	182	.00002	-	0.10	.030	<.01	.07	<.0005

* Wastewater flows characteristic breakdown as follows: Residential is > 95% and Industrial is < 5%.

EXHIBIT IV

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Service Area Population Estimate[1]

Municipality	Population	Approximate Service Area, %	Population Served
City of Harrisburg	48,950	100	48,950
Borough of Paxtang	1,570	100	1,570
Borough of Steelton	5,858	100	5,858
Lower Paxton Township	44,424	66	29,320
Susquehanna Township	21,895	100	21,895
Swatara Township	22,610	50	11,305
Total Service Area Population			121,942

Land Type

Municipality	Land Type	Square Miles	Percent
City of Harrisburg	Land	7.8	66.1
	Water	4.0	33.9
Total		11.8	100.0

City of Harrisburg Account Type

Account Type	Number of Accounts	Percent
Residential	12,563	85.1
Commercial	1,709	11.6
Industrial	41	0.2
Public	427	2.9
Utility	12	0.1
Wholesale	6	0.1
Total	14,758	100.0

[1] Source: U.S. Census Bureau, Census 2000

EXHIBIT V

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

2002

NPDES Permit Limitation

January 1, 2002 thru December 31, 2002

Parameter		Quantity, lb/d		Concentration, mg/l		
		Monthly Average /	Weekly Average	Monthly Average /	Weekly Average /	Instant Maximum
Flow		37.7	--------	----	----	----
5-Day CBOD		7,860	12,577	25	40	50
Total Suspended Solids		9,433	14,149	30	45	60
Total Phosphorus		629	--------	2	----	4
Dissolved Oxygen	---- 5.0 mg/l minimum at all times ----					
Fecal Coliform	October 1 thru April 30 ----				22,000/100 ml	Monthly Geometric Avg.
	May 1 thru September 30 ----				200/100 ml	Monthly Geometric Avg.
pH	Within limits of 6.0 to 9.0 Standard Units at all times					
Total Zinc		31	-------	0.10	----	*0.20
NH3-N	May 1 thru October 31	4,716	-------	15	----	30
	November 1 thru April 30	*	-------	*	----	*
Total Residual Chlorine				0.37		1.22

*Subject to monitoring requirements.

Note: The Harrisburg Authority was issued the final NPDES permit late in 1996. This permit was to be in effect until midnight on October 31, 2001. At year end the facility was still going through the renewal process. A "Draft NPDES Permit" was circulated and posted July 2002. A new permit has been issued effective February 1, 2003 through January 31, 2008.

EXHIBIT VI

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Process Control - 2002

Parameters	January	February	March	April	May	June	July	August	September	October	November	December	Average	NPDES Limits
Volume, MGD	18.6	16.9	23.2	23.0	24.6	20.5	18.2	17.3	18.1	26.3	27.9	28.4	21.9	37.7
Carbonaceous Biochemical Oxygen Demand														
Influent, mg/l	149	157	128	116	118	136	173	163	163	108	116	104	136	
Effluent, mg/l	7	7	8	5	5	4	4	4	5	6	6	7	6	25
Percent Removal, %	94.7	95.5	92.9	94.4	95.8	96.8	97.7	97.6	96.5	93.1	94.5	91.9	95.1	
Effluent Loading, lb/d	1,147	929	1,471	1,037	977	739	607	554	807	1,350	1,379	1,826	1,069	7,860
Suspended Solids														
Influent, mg/l	132	138	111	105	113	129	151	138	160	112	109	102	125	
Effluent, mg/l	23	14	17	16	13	14	12	18	19	14	12	19	16	30
Percent Removal, %	81.2	88.5	82.7	82.3	87.5	87.1	91.2	86.5	88.2	84.9	87.6	76.5	85.4	
Effluent Loading, lb/d	3,462	2,478	3,321	3,075	2,734	2,463	1,869	2,657	2,843	3,155	2,730	5,077	2,989	9,433
Phosphorus														
Influent, mg/l	3.7	4.0	3.1	3.0	3.0	3.4	3.9	4.1	4.3	3.3	2.9	2.8	3.5	
Effluent, mg/l	1.7	1.8	1.4	1.4	1.4	1.8	2.0	1.6	1.3	1.3	1.4	1.3	1.5	2.0
Percent Removal, %	52	60	56	55	46	45	48	60	70	54	52	59.3	55	
Effluent Loading, lb/d	266	250	257	254	282	305	299	230	196	282	312	297	269	629
pH														
Effluent, Std. Units	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.6	6.7	6.7	6.6	6.7	6.0 - 9.0
Dissolved Oxygen														
Effluent, mg/l	7.8	8.6	8.4	8.2	8.0	7.8	7.6	7.5	7.5	7.6	8.0	8.3	7.9	5.0 Min
Fecal Coliform														
Effluent, No. /100 ml	34	36	334	2	19	14	68	11	16	76	138	271	83	200/100 ml
Total Zinc														
Effluent, mg/l	0.08	0.06	0.07	0.06	0.05	0.05	0.04	0.03	0.04	0.04	0.04	0.04	0.05	0.10
Effluent Loading, lb/d	12.4	8.4	13.5	11.5	10.3	8.5	6.1	4.3	6.0	8.8	9.3	9.5	9.1	31.4
NH3-N														
Effluent, mg/l	15.7	19.2	14.4	15.4	13.8	16.8	17.3	17.7	14.2	12.7	12.2	13.0	15.2	15.0
Effluent Loading, lb/d	2,435	2,706	2,786	2,954	2,831	2,872	2,626	2,554	2,144	2,786	2,839	3,079	2,718	4,716
Chlorine Residual														
Effluent, mg/l	0.10	0.09	0.09	0.15	0.21	0.22	0.20	0.22	0.23	0.16	0.16	0.16	0.17	0.37

EXHIBIT VII

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Treatment Utility and Chemical Usage - 2002

Utility / Chemical	January	February	March	April	May	June	July	August	September	October	November	December	Average	Total
Electric														
Total, kwH	1,130,400	1,008,000	923,700	1,072,800	1,103,900	1,017,000	1,109,200	902,400	972,400	1,130,600	976,500	1,036,300	1,031,933	12,383,200
Average, kwH/Day	36,465	36,025	29,797	35,760	35,610	33,900	35,781	29,110	32,413	36,232	32,550	33,429	33,923	407,071
Cost, Dollars	$61,299.22	$58,236.18	$54,393.47	$61,441.72	$62,840.65	$58,807.15	$62,564.83	$52,901.08	$59,472.79	$63,494.44	$57,266.49	$59,665.42	$59,365.29	$712,383.44
Fuel Oil														
Total, Gals	0	2,964	0	0	0	6.7	0	0	0	0	5,837.2	0	734	8,808
Average, Gals./Day	0	106	0	0	0	0.22	0	0	0	0	195	0	25	301
Cost, Dollars	$0.00	$2,003.14	$0.00	$0.00	$0.00	$4.98	$0.00	$0.00	$0.00	$0.00	$4,907.92	$0.00	$576.34	$6,916.04
Natural Gas														
Total, Cu Ft	385	716	695	649	409	87	44	50	51	49	91	472	308	3,698
Average, Cu Ft/Day	12	26	22	22	13	3	1	2	2	2	3	16	10	123
Cost, Dollars	$3,810.89	$6,605.82	$6,409.65	$5,997.10	$3,892.35	$867.17	$533.70	$600.03	$612.41	$592.50	$1,027.97	$4,977.26	$2,986.40	$35,836.85
Water														
Total, Cu Ft	7,091	9,291	10,073	[illegible]	14,225	12,620	6,967	28,449	65,976	66,940	11,377	23,710	25,619	307,430
Average, Cu Ft/Day	229	332	325	1,690	471	421	225	917	2,199	2,159	379	761	843	10,111
Cost, Dollars	$1,842.43	[illegible]	$1,928.49	$3,100.00	$2,048.11	$2,097.83	$1,838.86	$2,458.18	$3,540.09	$3,567.88	$1,966.60	$2,321.56	$2,376.60	$28,519.20
Chlorine Disinfection														
Total, Lbs	[illegible]	[illegible]	4,158	5,265	6,158	5,220	5,290	6,126	5,260	5,920	5,420	5,624	5,313	65,849
Average, Lbs./Day	175	58	131	[illegible]	199	174	171	198	175	191	181	181	174	2,093
Avg Residual, mg/l	0.10	[illegible]	[illegible]	0.15	0.21	0.22	0.20	0.22	0.23	0.16	0.16	0.16	0.17	1.99
Cost, $/Lbs	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$2.70
Total Cost, Dollars	$1,271.75	$860.63	$955.55	[illegible]	$1,385.55	$1,174.50	[illegible]	$1,378.35	$1,183.50	$1,332.00	$1,219.50	$1,265.40	$1,195.43	$14,345.10
Phosphorous Removal														
Total FeSO4, Gals	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11,170	18,404	31,261	25,473	16,319	11,460	7,267	17,978	215,736
Avg FeSO4, Gals./Day	581	[illegible]	[illegible]	[illegible]	[illegible]	482	591	1,008	849	526	382	234	590	7,085
FeSO4 Cost, $/Gal	$0.18	$0.18	$0.18	$0.18	$0.18	$0.18	$0.18	$0.18	$0.18	$0.18	$0.18	$0.18	$0.18	$2.16
FeSO4 Total Cost, Dollars	[illegible]	[illegible]	[illegible]	[illegible]	$2,801.76	[illegible]	$3,312.72	$5,626.98	$4,585.14	$2,937.42	$2,062.80	$1,308.06	$3,236.04	$38,832.48

EXHIBIT VIII

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Conveyance Utility Usage - 2002

Location Utility	January	February	March	April	May	June	July	August	September	October	November	December	Average	Total
Front Street Pump Station														
Electric														
Total, kwH	85,200	76,200	84,600	91,800	105,600	84,600	76,800	60,600	73,800	114,600	122,400	143,400	93,300	1,119,600
Average, kwH Day	2,748	2,721	2,729	3,060	3,406	2,820	2,477	1,955	2,460	3,697	4,080	1,626	2,815	33,780
Cost, Dollars	$6,382.79	$6,588.99	$7,538.73	$7,948.41	$8,290.86	$6,855.67	$7,797.10	$5,487.96	$5,948.35	$9,487.87	$9,295.48	$11,704.67	$7,777.24	$93,326.88
Fuel Oil														
Total, Gals	0	4,580	0	0	0	0	0	0	0	0	0	0	382	4,580
Average, Gals Day	0	164	0	0	0	0	0	0	0	0	0	0	14	164
Cost, Dollars	$0.00	$3,095.03	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$257.92	$3,095.03
Water														
Total, Gallons	17,600	11,600	22,000	25,000	20,300	18,300	18,800	14,100	20,100	22,900	21,500	25,900	19,842	238,100
Average, Cu Ft Day	76	55	95	111	88	82	81	61	89	99	96	112	87	1,045
Cost, Dollars	$400	$386	$426	$437	$419	$412	$413	$395	$418	$429	$424	$441	$417.47	$5,009.64
Spring Creek Pump Station														
Electric														
Total, kwH	49,600	40,320	37,760	36,160	65,280	48,320	46,599	11,520	35,520	39,360	33,280	98,240	45,163	541,959
Average, kwH Day	1,600	1,440	1,218	1,205	2,106	1,611	1,503	372	1,184	1,270	1,109	3,169	1,482	17,786
Cost, Dollars	$3,943.94	$3,510.83	$3,246.93	$3,185.22	$5,245.40	$4,467.04	$2,588.16	$2,234.05	$3,010.42	$2,809.40	$2,407.70	$6,977.07	$3,635.89	$43,630.66
Fuel Oil														
Total, Gals	0	0	0	0	0	406	0	0	0	0	0	0	34	406
Average, Gals Day	0	0	0	0	0	14	0	0	0	0	0	0	1	14
Cost, Dollars	$0.00	$0.00	$0.00	$0.00	$0.00	$302.21	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$25.18	$302.21
Water														
Total, Cu Ft	2,235	1,917	2,245	2,218	2,856	4,083	3,479	2,061	3,047	1,951	853	2,061	2,417	29,006
Average, Cu Ft Day	72	68	72	74	92	136	112	66	101	63	28	66	79	950
Cost, Dollars	$101.44	$92.27	$101.72	$100.94	$119.34	$154.71	$137.30	$96.42	$124.85	$93.23	$61.59	$96.42	$106.69	$1,280.23
Market Street Pump Station														
Electric														
Total, kwH	14,280	13,320	12,810	14,490	5,880	7,080	8,760	480	6,240	5,640	7,200	14,400	9,210	110,520
Average, kwH Day	460	476	414	483	190	236	283	15	208	182	240	465	304	3,648
Cost, Dollars	$951.41	$911.56	$888.25	$1,139.45	$522.93	$800.31	$977.20	$452.33	$771.61	$631.16	$609.81	$1,018.40	$822.91	$9,874.92
Fuel Oil														
Total, Gals	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average, Gals Day	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cost, Dollars	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
City Island Pump Station														
Electric														
Total, kwH	3,674	3,009	680	760	680	640	720	600	840	1,320	1,480	600	1,250	15,003
Average, kwH Day	119	107	22	25	22	21	23	19	28	43	49	19	42	498
Cost, Dollars	$139.00	$302.27	$72.65	$85.66	$27.65	$73.53	$81.78	$69.50	$110.28	$129.22	$141.60	$69.50	$129.81	$1,557.73

**** Data not available at time of printing

EXHIBIT IX

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Sludge Handling Information - 2002

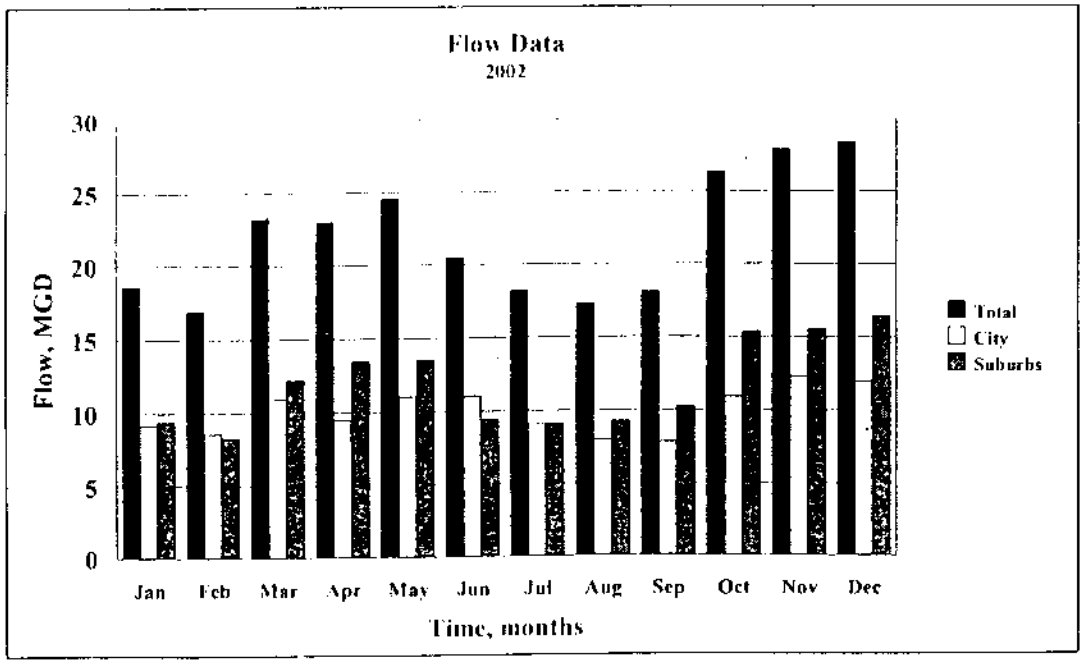
Process	January	February	March	April	May	June	July	August	September	October	November	December	Average	Total
Solids Removal														
Process, Lbs	1,416,899	1,156,758	1,281,975	1,374,090	1,330,639	1,528,780	1,588,703	1,432,045	1,788,588	1,559,472	1,359,237	1,548,838	1,447,169	17,366,024
CWH Program, Lbs	144,199	18,014	17,014	19,099	19,615	185,100	193,994	211,084	193,143	213,428	170,364	188,734	131,149	1,573,788
Total Solids, Lbs	1,561,098	1,174,772	1,298,989	1,393,189	1,350,254	1,713,880	1,782,697	1,643,129	1,981,731	1,772,900	1,529,601	1,737,572	1,578,318	18,939,812
Sludge Dewatering														
Feed Volume, Gals	3,408,000	2,770,000	2,802,000	3,251,000	3,567,000	3,936,000	4,200,000	5,745,000	3,740,000	4,561,000	3,472,000	2,180,000	3,636,000	43,632,000
Feed Solids, %	2.0	2.3	2.4	2.6	2.5	2.3	3.2	3.0	2.2	2.6	2.6	3.1	2.6	30.8
Operations, Hours	677	553	581	717	840	844	943	967	860	976	840	747	795	9,545
Total Cake, Dry Tons	171	152	177	237	265	254	312	299	243	350	217	185	239	2,862
Total Cake, Wet Tons	949	884	999	1,280	1,372	1,317	1,695	1,720	1,397	1,932	1,225	1,114	1,324	15,884
Cake TS, %	18.1	17.3	17.9	18.6	19.3	19.3	18.4	17.4	17.6	18.0	17.8	16.6	18.0	216.3
Press Rate, Lbs /Hour	2,804	3,196	3,439	3,570	3,267	3,122	3,595	3,557	3,249	3,959	2918	2982	3,305	39,658
Polymer Dosage, Lbs/Dry Ton	35.6	40.6	59.5	31.6	32.3	32.4	28.6	35.2	20.9	20.0	31.0	28.4	33.0	396.1
Disposal Cost														
Labor, Dollars	$10,506.50	$7,078.08	$7,312.00	$8,823.00	$10,421.00	$7,865.09	$12,297.00	$11,105.00	$9,802.00	$10,393.60	$8,377.60	$9,506.00	$9,457.24	$113,486.87
Electrical Dollars	$297.88	$213.32	$255.64	$315.48	$369.60	$371.36	$414.92	$425.48	$378.40	$429.44	$369.60	$328.68	$349.98	$4,199.80
Polymer, Dollars	$8,860.76	$8,270.00	$9,839.00	$11,051.00	$12,510.00	$11,741.00	$13,301.00	$14,800.00	$7,283.00	$10,127.00	$9,069.44	$7,449.00	$10,358.43	$124,301.20
Disposal, Dollars	$31,848.44	$29,667.04	$33,526.44	$42,956.80	$46,044.32	$44,198.52	$56,884.20	$57,723.20	$46,883.32	$64,837.92	$41,111.00	$37,385.84	$44,422.25	$533,067.04
Total Cost, Dollars	$51,513.58	$45,258.44	$50,933.08	$63,146.28	$69,344.92	$64,175.97	$82,897.12	$84,053.68	$64,346.72	$85,787.96	$58,927.64	$54,669.52	$64,587.91	$775,054.91
Cost Per Dry Ton, Dollars	$301.25	$297.75	$287.76	$266.44	$261.68	$252.66	$265.70	$281.12	$264.80	$245.11	$271.56	$295.51	$274.28	$3,291.33

EXHIBIT X

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Flow Monitoring Information, MGD - 2002

Month	Total Flow	City	Suburbs	City Regions 1	2	3	4	5	Suburb Regions 6	7	8	9	10	Total Precip inches
January	18.600	9.178	9.422	7.098	0.086	0.201	1.572	0.221	1.400	2.756	2.015	3.013	0.238	1.860
February	16.900	8.601	8.299	6.075	0.016	0.195	2.080	0.235	1.300	2.000	1.969	2.820	0.210	0.450
March	23.200	10.960	12.240	8.879	0.040	0.241	1.536	0.264	1.500	4.159	1.760	4.600	0.221	4.880
April	23.000	9.515	13.485	8.187	0.044	0.259	0.797	0.228	1.500	4.616	2.623	4.452	0.294	3.160
May	24.600	11.063	13.537	9.504	0.070	0.270	1.007	0.212	1.600	4.381	2.644	4.588	0.324	4.950
June	20.500	11.051	9.449	8.747	0.043	0.240	1.844	0.177	1.500	3.039	1.408	3.220	0.282	5.410
July	18.200	9.068	9.132	7.007	0.116	0.261	1.407	0.277	1.360	2.765	1.866	2.878	0.263	1.860
August	17.300	8.028	9.272	4.663	0.069	0.258	2.772	0.266	1.400	3.004	1.860	2.749	0.259	2.600
September	18.100	7.876	10.224	5.974	0.045	0.268	1.308	0.281	1.440	3.043	2.045	3.398	0.298	5.420
October	26.300	10.940	15.360	9.600	0.190	0.277	0.571	0.302	1.700	5.570	2.449	5.059	0.582	8.680
November	27.900	12.332	15.568	9.082	0.108	0.319	2.540	0.283	1.600	3.858	2.492	5.705	1.913	4.690
December	28.400	11.983	16.417	7.940	0.121	0.327	3.306	0.289	1.900	3.598	2.730	6.013	2.176	4.770
Average	21.92	10.05	11.87											4.00
Percent	100.00	45.85	54.15											48.73



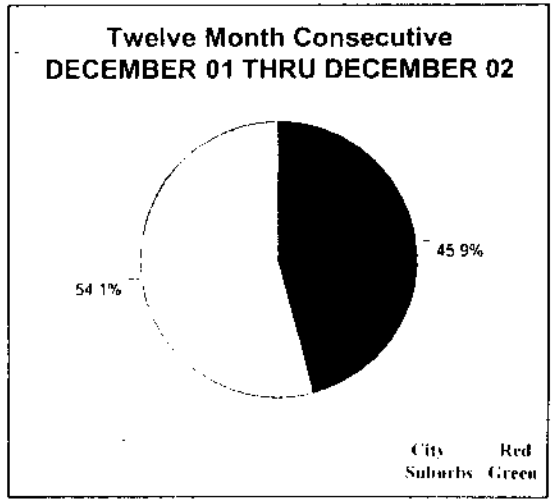


Exhibit XI
CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

	Jan - Dec 02	Budget	$ Over Bud...
Income			
2900 · Income			
350 · Interest Income			
350002 · Interest Savings - Con/Treat	23,813.68	22,000.00	1,813.68
350003 · Interest Savings - Collection	4,996.54	5,000.00	-3.46
352002 · Interest Other - Con/Treat	26,131.90	140,000.00	-113,868.10
352003 · Interest Other-Collection	5,201.31	25,000.00	-19,798.69
Total 350 · Interest Income	60,143.43	192,000.00	-131,856.57
369 · Sewerage Utility Fund			
369002 · Conveyance/Treatment Revenue	4,495,091.39	4,506,321.00	-11,229.61
369003 · Collection System Revenue	899,931.97	847,038.00	52,893.97
369005 · Sales of Scrap	243.27	500.00	-256.73
369008 · Sales to Public Authorities	5,106,449.02	5,050,184.00	56,265.02
369009 · Other Sewer Operational Revenue	483.48	0.00	483.48
369010 · Sludge Handling Charges	519,013.33	232,000.00	287,013.33
369011 · Sales of Electric Power	86,076.00	100,000.00	-13,924.00
369012 · Contract Waste Hauling Charges	2,200.00	2,100.00	100.00
369013 · Pretreatment Charges	5,500.00	5,000.00	500.00
369014 · Contract Waste Hauling Lab Fees	25,473.75	14,300.00	11,173.75
369015 · Pretreatment Lab Fees	23,603.75	24,000.00	-396.25
369053 · Liens Principal - Convey/Treat	93,600.77	65,052.00	28,548.77
369054 · Liens Interest - Convey/Treat	8,887.13	4,170.00	4,717.13
369055 · Liens Principal - Collection	18,382.90	12,948.00	5,434.90
369056 · Liens Interest - Collection	2,030.32	830.00	1,200.32
Total 369 · Sewerage Utility Fund	11,286,967.08	10,864,443.00	422,524.08
385000 · Refund of Expenditures	49,084.64	4,000.00	45,084.64
396000 · State Subsidy Grant	272,592.74	272,593.00	-0.26
Total 2900 · Income	11,668,787.89	11,333,036.00	335,751.89
Total Income	11,668,787.89	11,333,036.00	335,751.89
Gross Profit	11,668,787.89	11,333,036.00	335,751.89
Expense			
2910 · Administration			
414 · Salaries and Wages			
1414000 · Wages - Hourly Employees	319,457.57	312,867.00	6,590.57
1416000 · Overtime	254.76	0.00	254.76
1417000 · Sick Leave Buyback	2,435.40	2,400.00	35.40
Total 414 · Salaries and Wages	322,147.73	315,267.00	6,880.73
419 · Fringe Benefits			
1419001 · Social Security	24,636.69	24,119.00	517.69
1419002 · Blue Cross/Shield	52,074.66	39,195.00	12,879.66
1419003 · Group Life Insurance	1,813.28	1,204.00	609.28
1419004 · Prescription Drug Expense	8,320.93	7,363.00	957.93
1419005 · Severance Pay	0.00	3,000.00	-3,000.00
1419008 · Meal Allowance	999.28	0.00	999.28
1419009 · Vision Insurance	450.59	644.00	-193.41
1419010 · Unemployment	0.00	2,500.00	-2,500.00
1419011 · Workers' Compensation	1,136.64	1,200.00	-63.36
1419012 · Loss Time / Medical @ WC	21,327.85	53,800.00	-32,472.15
1419014 · State Fees @ Workers' Comp.	840.56	1,200.00	-359.44
1419015 · Excess Insurance Policy @ WC	5,340.01	6,700.00	-1,359.99
Total 419 · Fringe Benefits	116,940.49	140,925.00	-23,984.51
420 · Communications			
1420010 · Advertising & Public Notices	461.44	1,000.00	-538.56
1420020 · Printing Reproducing & Report	4,704.31	2,750.00	1,954.31
1420040 · Telephone	17,978.08	17,000.00	978.08
1420050 · Postage	576.51	600.00	-23.49
Total 420 · Communications	23,720.34	21,350.00	2,370.34

Exhibit XI
CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

	Jan - Dec 02	Budget	$ Over Bud...
421 · Professional Fees			
1421020 · Audit Fees	17,051.30	38,200.00	-21,148.70
1421030 · Consulting	31,100.00	12,000.00	19,100.00
1421040 · Collection	55,386.51	90,000.00	-34,613.49
1421050 · Professional Fees/Other	1,687.66	0.00	1,687.66
Total 421 · Professional Fees	105,225.47	140,200.00	-34,974.53
423 · Insurance			
1423010 · Automobile	6,661.49	8,100.00	-1,438.51
1423020 · General Liability	48,643.62	38,400.00	10,243.62
1423030 · Boiler and Machinery	6,759.26	3,800.00	2,959.26
1423040 · Fire	59,615.17	41,400.00	18,215.17
1423060 · Flood	47,621.00	43,900.00	3,721.00
1423090 · Public Official Liability	5,231.63	3,500.00	1,731.63
1423095 · Excess Liability	9,833.07	8,200.00	1,633.07
Total 423 · Insurance	184,365.24	147,300.00	37,065.24
425 · Maintenance			
1425080 · Service Contracts	0.00	2,000.00	-2,000.00
1425090 · Maintenance Service Contract	34,525.18	48,293.00	-13,767.82
Total 425 · Maintenance	34,525.18	50,293.00	-15,767.82
429 · Other Contracted Services			
1429001 · Tuition for Employee Training	313.95	500.00	-186.05
1429003 · Interfund - General Admin.	3,694,436.00	3,763,668.00	-69,232.00
1429007 · Freight-Shipping Charges	1,553.05	2,500.00	-946.95
1429009 · Pension Fund Admin. Charge	11.92	50.00	-38.08
1429015 · Travel	572.04	4,000.00	-3,427.96
1429016 · Conferences	1,425.45	1,500.00	-74.55
1429017 · Membership Dues	0.00	464.00	-464.00
1429025 · CAT Event Disaster Recovery	1,024.80	1,333.00	-308.20
1429090 · Misc Contracted Services	532.00	0.00	532.00
1429095 · Bank Service Charge	0.00	1,000.00	-1,000.00
Total 429 · Other Contracted Services	3,699,869.21	3,775,015.00	-75,145.79
430 · Supplies and Expenses			
1430001 · Educational Supplies	0.00	100.00	-100.00
1430003 · Subscriptions, Periodicals	336.65	250.00	86.65
1430004 · Audio-Visual Materials	0.00	50.00	-50.00
1430005 · Duplication Supplies	0.00	400.00	-400.00
1430006 · Photo Supplies	3,020.32	1,200.00	1,820.32
1430008 · Data Processing Supplies	5,112.80	300.00	4,812.80
1430009 · Office Supplies	4,409.46	4,000.00	409.46
1430099 · Miscellaneous	114.39	0.00	114.39
Total 430 · Supplies and Expenses	12,993.62	6,300.00	6,693.62
447 · Interest Debt Service Pension			
1447030 · General Obligation Serial Bond	5,105.45	7,275.00	-2,169.55
Total 447 · Interest Debt Service Pension	5,105.45	7,275.00	-2,169.55
448 · Principal Debt Service Pension			
1448030 · General Obligation Serial Bonds	75,562.50	70,892.00	4,670.50
Total 448 · Principal Debt Service Pension	75,562.50	70,892.00	4,670.50
449 · Authority Payments			
1449030 · Transfer To Authority - Rental	2,181,210.79	1,919,960.00	261,250.79
1449031 · Pennvest	256,986.02	139,083.00	117,903.02
Total 449 · Authority Payments	2,438,196.81	2,059,043.00	379,153.81
452 · Building and Structure			
1452000 · Building and Structures	0.00	0.00	0.00
Total 452 · Building and Structure	0.00	0.00	0.00

Exhibit XI
CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

	Jan - Dec 02	Budget	$ Over Bud...
453 · Capital Expenses			
1453051 · Data Processing Equipment	1,682.59	0.00	1,682.59
Total 453 · Capital Expenses	1,682.59	0.00	1,682.59
483 · Cash Over/Under			
1483000 · Cash Over/Under	0.00	0.00	0.00
Total 483 · Cash Over/Under	0.00	0.00	0.00
486. · Payment Prior Yr Expense			
1486000 · Payment Prior Yr Expense	6,623.67	0.00	6,623.67
Total 486. · Payment Prior Yr Expense	6,623.67	0.00	6,623.67
Total 2910 · Administration	7,026,958.30	6,733,860.00	293,098.30
2920 · Operations			
414. · Salaries and Wages - Operations			
2414000 · Wages-Hourly Employees	880,217.40	911,126.00	-30,908.60
2416000 · Overtime	185,032.29	204,255.00	-19,222.71
Total 414. · Salaries and Wages - Operations	1,065,249.69	1,115,381.00	-50,131.31
419. · Fringe Benefits			
2419001 · Social Security	81,491.58	85,328.00	-3,836.42
2419002 · Blue Cross/Blue Shield	102,842.88	117,956.00	-15,113.12
2419003 · Group Life Insurance	4,305.60	3,624.00	681.60
2419004 · Prescription Drug Expense	23,055.68	22,160.00	895.68
2419008 · Meal Allowance	2,029.94	0.00	2,029.94
2419009 · Vision Insurance	1,347.10	1,939.00	-591.90
2419010 · Unemployment	0.00	0.00	0.00
Total 419. · Fringe Benefits	215,072.78	231,007.00	-15,934.22
420. · Communications			
2420010 · Advertising/Public Notice	53.04	0.00	53.04
2420040 · Telephone	99.85	0.00	99.85
Total 420. · Communications	152.89	0.00	152.89
422 · Utilities and Service			
2422000 · Sewage	0.00	24,722.00	-24,722.00
2422010 · Water	121,170.93	68,286.00	52,884.93
2422020 · Electricity	849,013.96	829,000.00	20,013.96
2422030 · Heat	46,625.02	65,857.00	-19,231.98
2422080 · Sewer Maintenance Charge	0.00	3,708.00	-3,708.00
2422090 · Garbage & Refuse Removal	582,452.19	549,663.00	32,789.19
Total 422 · Utilities and Service	1,599,262.10	1,541,236.00	58,026.10
424 · Rental			
2424010 · Heavy Equipment	0.00	1,000.00	-1,000.00
2424060 · Other	1,913.58	1,500.00	413.58
Total 424 · Rental	1,913.58	2,500.00	-586.42
425. · Maintenance and Repairs			
2425050 · Communications Equipment	0.00	0.00	0.00
2425080 · Service Contracts	162,554.56	168,274.00	-5,719.44
2425099 · Other Contracted Maint & Repair	31,885.06	33,000.00	-1,114.94
Total 425. · Maintenance and Repairs	194,439.62	201,274.00	-6,834.38
429. · Contracted Services			
2429001 · Tuition for Employee	140.00		
2429003 · General Admin. Charges	56,031.00	57,081.00	-1,050.00
2429012 · Laundry & Dry Cleaning	11,616.90	12,300.00	-683.10
2429013 · Incinerator Truck Permits	800.00	800.00	0.00
2429090 · Misc Contracted Services	1,830.00	0.00	1,830.00
Total 429. · Contracted Services	70,417.90	70,181.00	236.90

Exhibit XI
CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

	Jan - Dec 02	Budget	$ Over Bud...
430. · Supplies and Expenses			
2430001 · Education Supplies	460.08	200.00	260.08
2430006 · Photography	484.48	0.00	484.48
2430011 · Custodial Supplies	3,313.78	3,500.00	-186.22
2430012 · Personnel Safety Supplies	3,490.76	2,000.00	1,490.76
2430013 · Fire Fighting Supplies	736.00	500.00	236.00
2430014 · Wearing Apparel	0.00	500.00	-500.00
2430016 · Medical Surgical & Lab Supplies	51,548.50	51,500.00	48.50
2430036 · Bldg Construction Supply	0.00	0.00	0.00
2430037 · Chemicals	187,123.13	172,000.00	15,123.13
Total 430. · Supplies and Expenses	247,156.73	230,200.00	16,956.73
452. · Bldg & Non-Structures			
2452000 · Plant Building & Structure	7,737.00	0.00	7,737.00
Total 452. · Bldg & Non-Structures	7,737.00	0.00	7,737.00
456 · Water Mains & Accessories			
2456015 · Water Mains & Accessories	9,975.95	0.00	9,975.95
Total 456 · Water Mains & Accessories	9,975.95	0.00	9,975.95
486 · Pymt of Prior Year Expend			
2486000 · Pymt of Prior Year Expend	129,800.00	0.00	129,800.00
Total 486 · Pymt of Prior Year Expend	129,800.00	0.00	129,800.00
Total 2920 · Operations	3,541,178.24	3,391,779.00	149,399.24
2930 · Maintenance			
414.. · Wages and Salary			
3414000 · Wages-Hourly Employees	361,929.51	360,408.00	1,521.51
3416000 · Overtime	11,282.50	2,219.00	9,063.50
Total 414.. · Wages and Salary	373,212.01	362,627.00	10,585.01
419.. · Fringe Benefits			
3419001 · Social Security	28,550.72	27,742.00	808.72
3419002 · Blue Cross/Blue Shield	43,691.25	41,004.00	2,687.25
3419003 · Group Life Insurance	1,684.80	1,287.00	397.80
3419004 · Prescription Drug Expense	9,070.93	7,560.00	1,510.93
3419008 · Meal Allowance	830.43	0.00	830.43
3419009 · Vision Insurance	543.49	684.00	-140.51
Total 419.. · Fringe Benefits	84,371.62	78,277.00	6,094.62
420.. · Communication			
3420020 · Printing Repro & Report	0.00	0.00	0.00
Total 420.. · Communication	0.00	0.00	0.00
425.. · Maintenance and Repairs			
3425010 · Vehicle Equipment	6,613.39	7,000.00	-386.61
3425030 · Buildings and Structures	0.00	1,000.00	-1,000.00
3425060 · Operations Equipment	994.54	6,000.00	-5,005.46
Total 425.. · Maintenance and Repairs	7,607.93	14,000.00	-6,392.07
429.. · Contracted Service			
3429003 · General Admin. Charges	126,470.00	128,840.00	-2,370.00
3429009 · Administrative Trustee	0.00	375.00	-375.00
3429090 · Miscellaneous	480.00	0.00	480.00
Total 429.. · Contracted Service	126,950.00	129,215.00	-2,265.00

Exhibit XI
CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

	Jan - Dec 02	Budget	$ Over Bud...
430.. · Supplies and Expenses			
3430012 · Personal Safety Supplies	1,547.16	200.00	1,347.16
3430030 · Snow/Ice Control Supplies	0.00	100.00	-100.00
3430031 · Asphalt Supplies	0.00	1,000.00	-1,000.00
3430032 · Concrete Supplies	0.00	1,000.00	-1,000.00
3430036 · Building & Construction Supplie	3,310.66	4,000.00	-689.34
3430037 · Chemicals/Expense	1,092.26	0.00	1,092.26
3430042 · Expendable Tools & Hardware	7,626.39	5,000.00	2,626.39
3430045 · Utility Plant, Fuels, Lubricant	7,434.81	6,000.00	1,434.81
3430050 · Motor Fuels & Lubricants	7,473.20	8,000.00	-526.80
3430051 · Tires & Batteries	2,046.81	1,500.00	546.81
3430052 · Vehicle Parts & Supplies	15,555.52	8,000.00	7,555.52
3430055 · Mechanical Equipmt-Parts & Supp	124,354.87	100,000.00	24,354.87
3430057 · Pipe Connection Etc	11,805.99	10,000.00	1,805.99
3430099 · Misc. Supplies & Expenses	7,970.40	12,000.00	-4,029.60
Total 430.. · Supplies and Expenses	190,218.07	156,800.00	33,418.07
453.. · Capital Outlays			
3453099 · Equipment - Other	0.00	0.00	0.00
3456014 · Sewer Mains & Accessories	0.00	0.00	0.00
Total 453.. · Capital Outlays	0.00	0.00	0.00
457.. · Sewer Plant Equipment			
3457044 · Sewer Plant Equip	9,685.30	0.00	9,685.30
Total 457.. · Sewer Plant Equipment	9,685.30	0.00	9,685.30
Total 2930 · Maintenance	792,044.93	740,919.00	51,125.93
2940 · Field Maintenance			
414... · Wages and Salary - Fd. Main.			
4414000 · Wages Hourly Employees	229,330.68	243,525.00	-14,194.32
4416000 · Overtime	15,958.61	14,030.00	1,928.61
Total 414... · Wages and Salary - Fd. Main.	245,289.29	257,555.00	-12,265.71
419... · Fringe Benefits			
4419001 · Social Security	18,764.63	19,701.00	-936.37
4419002 · Blue Cross/Blue Shield	34,245.79	31,892.00	2,353.79
4419003 · Group Life Insurance	1,278.40	1,001.00	277.40
4419004 · Prescription Drug Expense	7,061.37	5,880.00	1,181.37
4419008 · Meal Allowance	553.62	0.00	553.62
4419009 · Vision Insurance	415.00	532.00	-117.00
Total 419... · Fringe Benefits	62,318.81	59,006.00	3,312.81
420... · Printing & Reproduction			
4420020 · Printing Repro & Report	350.00	0.00	350.00
Total 420... · Printing & Reproduction	350.00	0.00	350.00
421... · Legal Fees			
4421010 · Legal Fees	1,048.10	0.00	1,048.10
Total 421... · Legal Fees	1,048.10	0.00	1,048.10
422.. · Utilities			
4422010 · Water	0.00	0.00	0.00
4422090 · Garbage and Refuse	0.00	0.00	0.00
Total 422.. · Utilities	0.00	0.00	0.00
425... · Maintenance and Repairs			
4425010 · Vehicular Equipment	5,853.12	5,000.00	853.12
4425030 · Buildings and Structures	1,566.97	1,000.00	566.97
4425060 · Operations Equipment	0.00	1,000.00	-1,000.00
4425099 · Other Contracted Maint/Repairs	4,982.84	12,500.00	-7,517.16
Total 425... · Maintenance and Repairs	12,402.93	19,500.00	-7,097.07

Exhibit XI
CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

	Jan - Dec 02	Budget	$ Over Bud...
429... · Contracted Services			
4429003 · General Admin. Charges	125,269.00	127,617.00	-2,348.00
Total 429... · Contracted Services	125,269.00	127,617.00	-2,348.00
430... · Supplies and Expenses			
4430006 · Photography	484.47	0.00	484.47
4430012 · Personal Safety Supplies	98.67	200.00	-101.33
4430034 · Traffic Control Supplies	0.00	100.00	-100.00
4430036 · Building and Const. Supplies	326.46	500.00	-173.54
4430040 · Botanical Supplies	960.17	500.00	460.17
4430042 · Tools & Hardware	343.27	0.00	343.27
4430052 · Vehicle Parts & Supplies	256.83	500.00	-243.17
4430053 · Vehicle Repair Tools/Equipment	328.00	0.00	328.00
4430055 · Mechanical Equipment P & S	8,435.03	1,000.00	7,435.03
Total 430... · Supplies and Expenses	11,232.90	2,800.00	8,432.90
452.... · Building & Structures			
4452000 · Buildings & Structures	2,781.00	0.00	2,781.00
Total 452.... · Building & Structures	2,781.00	0.00	2,781.00
453.... · Equipment			
4453051 · Equipment - Data Processing	12,384.00	0.00	12,384.00
4453099 · Equipment - Other	2,494.00	0.00	2,494.00
Total 453.... · Equipment	14,878.00	0.00	14,878.00
Total 2940 · Field Maintenance	475,570.03	466,478.00	9,092.03
Total Expense	11,835,751.50	11,333,036.00	502,715.50
Net Income	-166,963.61	0.00	-166,963.61

EXHIBIT XII

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

LABORATORY

APG Quality Assurance Program Review - 2002

Tested Parameter	NPDES Analysis	Average % Recovery	2002 Control Limit	% Analysis Beyond Limit
BOD5	No	112.7	+/- 15.0 %	25.0
CBOD5	Yes	112.7	+/- 15.0 %	0.0
Suspended Solids	Yes	93.2	+/- 5.0 %	0.0
Phosphorus,Total	Yes	100.9	+/- 5.0 %	0.0
Orthophosphate	No	101.1	+/- 5.0 %	0.0
pH	Yes	99.1	+/- 5.0 %	0.0
Oil & Grease	No	94.9	+/- 20.0 %	0.0
Ammonia-Nitrogen	Yes	97.9	+/- 5.0 %	0.0
COD	No	97.1	+/- 10.0 %	0.0
Arsenic	No	98.1	+/- 10.0 %	0.0
Cadmium	No	104.1	+/- 10.0 %	0.0
Chromium	No	94.3	+/- 10.0 %	0.0
Copper	No	103.0	+/- 10.0 %	0.0
Lead	No	101.8	+/- 10.0 %	0.0
Nickel	No	108.8	+/- 10.0 %	0.0
Zinc	Yes	102.3	+/- 10.0 %	0.0
Chlorine, Total Residual	Yes	101.3	+/- 10.0 %	0.0

EXHIBIT XIII

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

LABORATORY

EPA-DMR Quality Assurance Evaluation - 2002

Tested Parameter	Required Analysis	AWTF Results	EPA Value	Percent Recovery	Acceptance Limits	Acceptable Performance
Carbonaceous BOD5	Yes	16.1	23.1	69.7	10.3-35.9	Yes
BOD5	No	17.4	26.7	65.2	13.2-40.2	Yes
Suspended Solids	Yes	40.7	42.5	95.8	31.7-45.5	Yes
Phosphorus,Total	Yes	5.78	5.71	101.2	4.34-6.69	Yes
Orthophosphate	No	1.57	1.45	108.3	1.23-1.69	Yes
pH	Yes	6.34	6.38	99.4	6.23-6.54	Yes
Ammonia-Nitrogen	Yes	4.11	4.07	101.0	3.1-5.02	Yes
Oil and Grease	No	33.8	35.1	96.3	22.7-40.6	Yes
COD	No	41.5	43	96.7	27.9-54.7	Yes
Arsenic	No	188	182	103.3	149-215	Yes
Cadmium	No	116	114.0	101.8	96.5-131	Yes
Chromium	No	210	223	94.2	193-254	Yes
Copper	No	160	156	102.6	139-174	Yes
Lead	No	653	644	101.4	562-723	Yes
Nickel	No	349	323	108.0	287-364	Yes
Zinc	Yes	203	200	101.5	174-229	Yes
Residual Chlorine	Yes	1.94	1.94	100.0	1.5-2.22	Yes

EXHIBIT XIV

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Pretreatment Performance Summary

I. General Information

Control Authority Name: City of Harrisburg
Address: 1662 South Cameron Street
City: Harrisburg State: Pennsylvania Zip: 17104
Contact Person: Thomas J. Mealy
Contact Telephone Number: (717) 939-7275
NPDES No.: PA0027197
Reporting Period: January 1 - December 31, 2002
Total Categorical IUs (CIUs): 4
Total Significant Noncategorical IUs (SNIUs): 8

II. Significant Industrial User Compliance

1. No. of SIUs With Current Control Documents	12
2. No. of SIU Facilities Inspected	12
3. No. of SIU Facilities Sampled	12
4. No. of SIUs Submitting Self-Monitoring Reports	11(1)

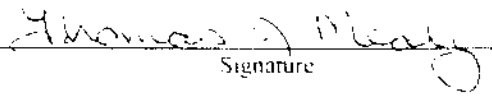
III. Significant Industrial User Compliance

1. No. of SIUs Violating a Compliance Schedule/No. on a Schedule	0/0
2. No. of SIUs in SNC for the July to December Period	0
3. No. of SIUs in SNC At Any Time During Calendar Year	1
4. No. of SIUs in SNC That Were Also in SNC During the Previous Calendar Year	0

IV. Enforcement Actions

1. Notices/Letters of Violation Issued to SIUs	10
2. Enforceable Compliance Schedules Issued to SIUs	0
3. Civil Suits Filed	0
4. Criminal Suits Filed	0
5. No. of SIUs From Which Penalties Have Been Collected	0
6. Other Actions (sewer bans, etc.)	0

I certify that the information contained in this report and attachments is complete and accurate to the best of my knowledge. (See Part B.V of the instructions)

Thomas J. Mealy	Superintendent
Name of Authorized Representative (Print)	Title (Print)
	February 26, 2003
Signature	Date

(1) In lieu of quarterly self monitoring, the City opted to perform quarterly compliance sampling at the New Morgan Municipal Authority

EXHIBIT XV

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE PRETREATMENT PROGRAM

Regulated Industrial Users - 2002

Industrial User	Class	SIC	Category	BMR (1) Submittal	Permit Number	Permit Issued	Permit Expir.	90-Day (2) Compliance Report Rec'd	Inspection Facility	Inspection Self Mon.	Sampling Compliance	Sampling Self Mon.
Ames True Temper Incorporated 1500 South Cameron Street, Hbg., Pa 17104	C	3799	Metal Finishing	06/22/99	062504-6	12/31/01(3)	06/25/04	09/24/99 (b)	1	1	9	12
Charles D. Snyder & Son, Inc. 10th and Walnut Streets, Hbg., Pa 17101	C	3471	Electroplating	05/12/99	051904-5	05/20/99	05/19/04	08/18/99 (b)	2	2	6	14
Chromalloy Gas Turbine Corporation 1400 North Cameron Street, Hbg., Pa 17103	C	3724	Metal Finishing	06/24/99	062704-7	06/28/99	06/27/04	09/22/99 (b)	1	1	9	12
Electronic Service & Design Corporation 5885 Grayson Road, Hbg., Pa 17111	C	3679	Metal Finishing	06/12/01	062606-10	06/27/01	06/26/06	07/08/96 (b)	1	1	9	20
Harrisburg Dairies, Inc 20th and Herr Streets, Hbg., Pa 17103	NC	2020	High Load Conv.	07/19/99	082104-13	12/31/01(3)	08/21/04	10/19/99 (b)	1	1	9	7
Harrisburg Steam Generating Facility 1670 South 19th Street, Hbg., Pa 17104	NC	4953	High Load Metals	03/15/00	032005-9	12/31/01(3)	03/20/05	06/01/00 (b)	1	2	15	21
Hershey Creamery Company 301 South Cameron Street, Hbg., Pa 17101	NC	2024	High Load Conv	07/20/99	072304-8	07/24/99	07/23/04	10/19/99 (b)	1	1	9	19
New Morgan Municipal Authority 909 Elmerton Avenue, Hbg., Pa 17110	NC	4953	High Load Metals	04/04/00	040605-21	04/06/00	04/06/05	11/08/00(a)	1	1	1(4)	0(5)
Norfolk Southern Corporation 3322 Industrial Road, Hbg., Pa 17110	NC	4011	High Load Conv	07/15/99	081903-11	07/16/99	08/19/03	10/13/98 (b)	1	1	6	4
Stroehmann Bakeries, Inc 3996 Paxton Street, Hbg., Pa 17111	NC	2051	High Load Conv	08/13/99	082204-14	12/31/01(3)	08/22/04	12/07/99 (b)	1	1	6	4
Sunoco Incorporated 1700 Derry Street, Hbg., Pa 17104	NC	5541	High Load Organics	09/01/01	070807-22	07/08/02	07/07/07	09/23/02(a)	1	1	1	6
Swatara Township Landfill 599 Eisenhower Boulevard, Hbg., Pa 17111	NC	4953	High Load Metals	03/02/98	031603-17	03/17/98	03/16/03	05/27/98 (b)	1	1	3	3(6)

Notes:

(1) All industrial users are required to update their BMR's prior to permit issuance or reissuance. The date indicated represents the most recent submittal

(2) All industrial users are required to submit a 90 day compliance report upon industrial user permit, (a) issuance, (b) reissuance or (c) amendment. The date indicated represents the most recent submittal.

(3) Industrial user permit was amended on 12/31/01 to incorporate a flow proportional sampling provision. A 90-day compliance report was not deemed necessary

(4) As the result of no leachate flow, compliance monitoring and/or self monitoring sampling could not be performed during the first, third and fourth quarter of 2002

(5) In lieu of quarterly self monitoring, the City elected to perform quarterly compliance sampling

(6) As the result of no leachate flow due to dry weather conditions, self monitoring sampling could not be performed during the third quarter of 2002

Key

C - Categorical NC - Noncategorical

EXHIBIT XVI

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE PRETREATMENT PROGRAM

Enforcement Actions - 2002

Industrial User	Class	Violation	Type	City Action	I.U. Response
Charles D. Snyder & Son, Inc.	C	Nickel daily maximum effluent discharge limit exceedance; compliance monitoring 04/09/02.	NC	Letter of violation issued ending the second quarter 2002 enforcement evaluation period that requested an explanation of the violation and a plan of corrective action be submitted within 30 days.	Satisfactory response. I.U. responded in 30 days and explained that the batch discharge tank, which is analyzed by two different Atomic Absorption Spectrometers, could have concentrate near the bottom of the tank. As a plan of corrective action, the batch discharge tank will be agitated to have better blending when taking a process control sample. The results of the blended vs non-blended tank will be recorded and monitored.

Key: C - Categorical N - Noncategorical NC -Noncompliance SNC = Significant Noncompliance

Charles D. Snyder & Son, Inc.	C	Chromium daily maximum and nickel daily maximum discharge limit exceedances; compliance monitoring 07/22/02 and 09/12/02.	NC	Letter of violation issued ending the third quarter 2002 enforcement evaluation period that requested an explanation of the violations and a plan of corrective action be submitted within 30 days.	Satisfactory response. I.U. responded within 30 days and explained the chromium violation was due to a time lapse between analytical testing and the time of discharge. Regarding the nickel violation, process control testing showed the discharge to be within specification. A 0.70 mg/L and 0.91 mg/L nickel test result was indicated. Albeit, City testing showed an exceedance. As a plan of correction action, the in-house testing program set maximum discharge limits at 30-50% of the City's daily maximum discharge limits in an effort to eliminate the possibility of a future violation.
Electronic Service & Design Corporation	C	pH daily maximum effluent discharge limit exceedance; compliance monitoring 03/11/02.	NC	Letter of violation issued ending the first quarter 2002 enforcement evaluation period that requested an explanation of the violation and a plan of corrective action be submitted within 30 days.	Corrected. I.U. responded within 30 days and explained that a new pH probe was installed in a shroud for mounting and servicing purposes. The shroud prevented proper contact with the discharge resulting in false readings. As a plan of corrective action, the shroud has been removed and the probe mounted such that vigorous mixing takes place at the pH probe tip which results in a better response time.

Key: C = Categorical N = Noncategorical NC = Noncompliance SNC = Significant Noncompliance

Electronic Service & Design Corporation	C	Copper daily maximum and monthly average effluent discharge limit exceedances; self monitoring 08/06/02 and 09/10/02.	NC	Letter of violation issued ending the third quarter 2002 enforcement evaluation period that requested an explanation of the violations and a plan of corrective action be submitted within 30 days.	Corrected. I.U. responded within 30 days and explained that supernatant from the batch treatment system which treats the ion exchange column regeneration solution caused the excursions. As a plan of correction action, a filter bag and 10 micron filter cartridge was added to remove floatable solids from the batch treatment system's supernatant. Additionally, the sample point was cleaned and process control samples will be digested in accordance with US EPA approved methodologies to improve detection.
Harrisburg Dairies, Inc.	N	Oil Grease daily maximum effluent discharge limit exceedance; compliance monitoring 09/25/02.	NC	Letter of violation issued ending the third quarter 2002 enforcement evaluation period that requested an explanation of the violation and a plan of corrective action be submitted with 30 days.	Corrected. I.U. responded within 30 days and explained that a tube in the shell of a heat exchanger, used to cool oil, leaked. As a plan of corrective action, the compressor was shut down until repaired. A subsequent oil/grease test showed compliance.
Harrisburg Steam Generating Facility	N	pH, cadmium, copper, lead, zinc, and oil-grease instantaneous maximum effluent discharge limit exceedances; Accidental and/or slug discharge monitoring 03/22/02, 03/24/02, and 03/25/02.	NC	Letter of violation issued during the second quarter 2002 enforcement evaluation period that requested a plan of corrective action that outlines modifications to the Spill Prevention Contingency and Control Plan that will mitigate the impact of such future accidental non-customary batch or slug discharges.	Corrected. I.U. responded within 30 days and provided a plan of corrective action that outlined procedures and guidelines that will abate and/or mitigate the impact of such future accidental non-customary batch or slug discharges.

Key: C = Categorical N = Noncategorical NC = Noncompliance SNC = Significant Noncompliance

Harrisburg Steam Generating Facility	N	Lead daily maximum effluent discharge limit exceedance; self monitoring 05/24/02.	NC	Letter of violation issued ending the second quarter 2002 enforcement evaluation period that requested an explanation of the violation and a plan of corrective action be submitted within 30 days.	Corrected. I.U. responded within 30 days and explained that while air lancing the sandfilter to re-soften and fluff the sandfilter bed, a slug of solids was carried out of the overflow weir causing the exceedance. As a plan of corrective action, holes have been drilled in the suction elbow to reduce the clogging and compacting of the sandfilter. Thereby, lessening the need for air lancing and the potential for solids carry over at the overflow weir during maintenance.
Hershey Creamery Company	N	Oil/Grease daily maximum effluent discharge limit exceedance; self monitoring 01/23/02.	SNC	Notice of violation ending the first quarter 2002 enforcement evaluation period that requested a plan of corrective action be submitted within 30 days.	Corrected. I.U. responded within 30 days and explained that a blockage in the pretreatment plant's dissolved air flotation re-circulation line caused the violation. As a plan of corrective action, th blockage was removed. Samples collected on 04/30/02 and 05/13/02 showed a return to compliance.

Key: C = Categorical N = Noncategorical NC = Noncompliance SNC = Significant Noncompliance

Hershey Creamery Company	N	Oil/Grease daily maximum effluent discharge limit exceedance; compliance monitoring 08/19/02.	NC	Letter of violation issued ending the third quarter 2002 enforcement evaluation period that requested an explanation of the violation and a plan of corrective action be submitted within 30 days.	Satisfactory response. I.U. response within 30 days and explained that an out of specification batch of ice cream was discharged to the floor drains rather than the farm truck tanks. The inability of the pretreatment plant to treat the highly concentrated waste resulted in a violation. As a plan of corrective action, the Mix Department will review the standard operating procedures to make sure they implement the appropriate disposal procedures in the future.
Norfolk Southern Corporation	N	Oil/Grease daily maximum effluent discharge limit exceedance; compliance monitoring 04/08/02.	NC	Letter of violation issued ending the second quarter 2002 enforcement evaluation period that requested an explanation of the violation and a plan of corrective action be submitted within 30 days.	Corrected. I.U. responded within 30 days and explained that intermittent oil skimmer pump operation in the sample manhole caused the exceedance. As a plan of corrective action, the oil skimmer pumps have been removed and serviced. The activity will become part of the routine maintenance for this site.

Key: C = Categorical N = Noncategorical NC =Noncompliance SNC = Significant Noncompliance

EXHIBIT XVII

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE PRETREATMENT PROGRAM

Compliance Sampling/Inspection Schedule - 2003

Industrial User	Compliance Sampling	Facility Inspection	Self Monitoring Inspection
Ames True Temper Incorporated	January 27/September 8	March 3	August 4
Charles D. Snyder & Son, Inc.	April 7/July 14	March 10	August 4
Chromalloy Gas Turbine Corporation	March 24/July 28	March 17	August 4
Electronic Service & Design Corporation	March 10/July 14	March 24	August 4
Harrisburg Dairies, Inc.	February 24/September 22	April 7	September 1
Harrisburg Steam Generating Facility	February 10/August 11	April 14	September 1
Hershey Creamery Company	February 24/September 22	April 21	September 1
New Morgan Municipal Authority	February 18/May 12 August 18/November 10	May 5	September 1
Norfolk Southern Corporation	April 7/July 28	May 13	October 1
Stroehmann Bakeries, Inc.	April 21/August 25	May 20	October 1
Sunoco Incorporated	May 26/October 1	May 26	October 1
Swatara Township	March 11/July 1	May 27	October 1

Scheduled monitoring and inspection visitation will be through the week of the date above.

EXHIBIT XVIII

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE PRETREATMENT PROGRAM

Annual Newspaper Publication

of

2002 Significant Noncompliance Violators

C16 THE PATRIOT-NEWS SATURDAY, FEBRUARY 8, 2003

PUBLIC NOTICE
OF
SIGNIFICANT INDUSTRIAL
POLLUTION VIOLATIONS

Listed below is a significant industrial wastewater violation applicable to 40 CFR, Part 403 (General Pretreatment Regulations) which occurred during the calendar year 2002 to an industry tributary to the Harrisburg Advanced Wastewater Treatment Facility.

Industry Name: Hershey Cremery Company

Address: 301 South Cameron Street, Harrisburg, PA 17101

Violation: Exceeded the daily maximum discharge limit for oil/grease on 01/23/02.

Action Taken: A violation notice was issued.

I.U. Response: The company responded within thirty (30) days and indicated that a blockage in the pretreatment plant's dissolved air floatation re-circulation line caused the violation. As a plan of corrective action, the blockage was removed. Samples on 04/30/02 and 05/13/02 showed a return to compliance

EXHIBIT XIX

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE PRETREATMENT PROGRAM

Influent Metals Concentration, mg/l - 2002

Date	As	Cd	Cr	Cu	CN	Pb	Hg	Ni	Zn
01/02/2002		0.01	0.08	0.02		<0.08		<0.05	0.24
01/08/2002		0.01	<0.01	0.07		<0.08		<0.05	0.27
01/15/2002	<0.05	0.01	<0.01	0.04	<0.005	<0.08	<0.0005	<0.05	0.24
01/22/2002		0.01	<0.01	0.05		<0.08		<0.05	0.24
01/30/2002		<0.01	<0.01	0.05		<0.08		<0.05	0.27
02/07/2002		0.01	<0.01	0.03		<0.08		<0.05	0.18
02/15/2002		<0.01	<0.01	0.02		<0.08		<0.05	0.29
02/20/2002	<0.05	0.02	<0.01	0.06	<0.005	<0.08	<0.0005	<0.05	0.27
02/28/2002		0.02	<0.01	0.01		0.11		<0.05	0.24
03/06/2002		0.01	<0.01	0.05		<0.08		<0.05	0.20
03/14/2002	<0.05	0.01	<0.01	0.02	<0.005	<0.08	<0.0005	<0.05	0.20
03/21/2002		<0.01	<0.01	0.03		<0.08		<0.05	0.13
03/27/2002		0.02	<0.01	0.03		<0.08		<0.05	0.12
04/02/2002		0.005	0.005	0.040		<0.04		<0.025	0.135
04/09/2002		<0.005	<0.005	0.045		<0.04		<0.025	0.215
04/17/2002		<0.005	0.005	0.020		<0.04		<0.025	0.235
04/23/2002	<0.025	<0.005	0.005	0.015	<0.005	<0.04	<0.0005	<0.025	0.115
05/01/2002		0.005	0.010	0.040		<0.04		<0.025	0.220
05/09/2002		0.005	0.010	0.050		<0.04		<0.025	0.160
05/16/2002		0.005	0.005	0.030		<0.04		<0.025	0.130
05/20/2002		0.010	0.005	0.040		<0.04		0.025	0.130
05/29/2002	<0.025	0.005	0.005	0.050	<0.005	<0.04	<0.0005	<0.025	0.180
06/04/2002		0.005	<0.005	0.045		<0.04		<0.025	0.160
06/11/2002		0.005	<0.005	<0.005		<0.04		<0.025	0.105
06/19/2002		<0.005	0.010	0.045		<0.04		0.035	0.170
06/25/2002	<0.025	0.005	0.010	0.060	<0.005	0.010	<0.0005	<0.005	0.205
07/02/2002		<0.005	<0.005	0.075		<0.04		0.040	0.210
07/11/2002		0.005	<0.005	0.045		<0.04		<0.025	0.185
07/16/2002	<0.025	0.015	0.005	0.060	<0.005	<0.04	0.0007	<0.025	0.205
07/24/2002		<0.005	<0.005	0.060		<0.04		0.030	0.190
08/02/2002		0.005	<0.005	0.090		0.010		<0.005	0.260
08/06/2002		0.005	0.005	0.080		0.010		<0.005	0.235
08/13/2002		0.005	<0.005	0.090		0.030		0.005	0.395
08/22/2002		0.005	<0.005	0.060		0.020		0.005	0.270
08/27/2002	<0.025	0.005	0.005	0.040		0.005		<0.005	0.175
09/04/2002		<0.005	0.005	0.055		0.005		0.005	0.205
09/10/2002		0.005	0.005	0.075		0.010		<0.005	0.245
09/19/2002		0.005	0.010	0.075		0.010		0.005	0.235
09/24/2002	<0.025	<0.005	0.005	0.090	<0.005	0.010	<0.0005	0.005	0.245
09/30/2002		<0.005	<0.005	0.080		0.010		<0.005	0.225
10/09/2002		0.010	<0.005	<0.005		<0.005		<0.005	0.140
10/16/2002		<0.005	<0.005	0.020		<0.005		<0.005	0.180
10/23/2002	<0.025	0.005	<0.005	<0.005		<0.005		<0.005	0.170
10/28/2002		0.015	<0.005	<0.005		<0.005		<0.005	0.190
11/06/2002		<0.005	<0.005	<0.005		<0.005		<0.005	0.035
11/13/2002		<0.005	0.005	0.025		<0.005		<0.005	0.145
11/21/2002	<0.025	<0.005	0.015	0.035	<0.005	<0.005	<0.0005	<0.005	0.140
11/24/2002		<0.005	<0.005	0.025		<0.005		<0.005	0.205
12/01/2002		<0.005	<0.005	0.035		<0.005		<0.005	0.145
12/09/2002		<0.005	0.005	0.030		<0.005		<0.005	0.155
12/18/2002	<0.025	<0.005	<0.005	0.010	<0.005	<0.005	<0.0005	<0.005	0.105
12/26/2002		0.005	<0.005	0.040		<0.005		<0.005	0.125
AVERAGE	<0.025	0.005	0.004	0.041	<0.005	0.005	<0.0005	0.003	0.194

EXHIBIT XX

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE PRETREATMENT PROGRAM

Effluent Metals Concentration, mg/l - 2002

Date	As	Cd	Cr	Cu	CN	Pb	Hg	Ni	Zn
01/02/2002		<0.01	0.14	<0.01		<0.08		<0.05	0.05
01/08/2002		0.01	<0.01	0.06		<0.08		<0.05	0.06
01/15/2002	<0.05	<0.01	<0.01	0.01	<0.005	<0.08	<0.0005	<0.05	0.10
01/22/2002		<0.01	<0.01	0.01		<0.08		<0.05	0.07
01/30/2002		<0.01	<0.01	0.01		<0.08		<0.05	0.09
02/07/2002		<0.01	<0.01	<0.01		<0.08		<0.05	0.06
02/15/2002		<0.01	<0.01	<0.01		<0.08		<0.05	0.07
02/20/2002	<0.05	0.03	<0.01	<0.01	<0.005	<0.08	<0.0005	<0.05	0.06
02/28/2002		0.04	<0.01	<0.01		0.13		<0.05	0.05
03/06/2002		0.01	<0.01	0.01		<0.08		<0.05	0.08
03/14/2002	<0.05	<0.01	<0.01	<0.01	<0.005	<0.08	<0.0005	<0.05	0.08
03/21/2002		<0.01	<0.01	0.01		<0.08		<0.05	0.07
03/27/2002		0.01	<0.01	<0.01		<0.08		<0.05	0.06
04/02/2002		0.010	0.010	0.005		<0.04		<0.025	0.055
04/09/2002		<0.005	<0.005	<0.005		<0.04		<0.025	0.070
04/17/2002		<0.005	<0.005	<0.005		<0.04		<0.025	0.055
04/23/2002	<0.025	0.005	0.010	<0.005	<0.005	<0.04	<0.0005	<0.025	0.060
05/01/2002		0.015	<0.005	0.005		<0.04		<0.025	0.055
05/09/2002		0.010	0.005	0.010		<0.04		<0.025	0.050
05/16/2002		0.010	0.005	0.005		<0.04		<0.025	0.040
05/20/2002		0.005	0.005	0.010		<0.04		<0.025	0.040
05/29/2002	<0.025	0.005	<0.005	0.005	<0.005	<0.04	<0.0005	<0.025	0.045
06/04/2002		<0.005	<0.005	0.010		<0.04		<0.025	0.050
06/11/2002		<0.005	<0.005	0.005		<0.04		<0.025	0.025
06/19/2002		<0.005	0.005	0.005		<0.04		<0.025	0.050
06/25/2002	<0.025	<0.005	0.010	<0.005	<0.005	<0.005	<0.0005	<0.005	0.040
07/02/2002		0.005	0.010	<0.005		<0.04		0.035	0.040
07/11/2002		0.015	<0.005	<0.005		<0.04		<0.025	0.035
07/16/2002	<0.025	<0.005	<0.005	0.005	<0.005	<0.04	<0.0005	0.025	0.035
07/24/2002		<0.005	<0.005	0.005		<0.04		0.025	0.035
08/02/2002		0.005	<0.005	0.005		<0.005		<0.005	0.020
08/06/2002		0.005	0.010	0.005		<0.005		<0.005	0.025
08/13/2002		0.010	<0.005	<0.005		<0.005		<0.005	0.025
08/22/2002		0.005	<0.005	<0.005		<0.005		<0.005	0.025
08/27/2002	<0.025	0.005	0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	0.030
09/04/2002		0.005	0.005	0.010		<0.005		<0.005	0.035
09/10/2002		0.005	0.005	0.010		<0.005		<0.005	0.050
09/19/2002		<0.005	<0.005	0.030		<0.005		<0.005	0.035
09/24/2002	<0.025	<0.005	<0.005	0.035	<0.005	<0.005	<0.0005	<0.005	0.040
09/30/2002		<0.005	<0.005	0.030		<0.005		<0.005	0.035
10/09/2002		0.015	<0.005	<0.005		<0.005		<0.005	0.040
10/16/2002		0.005	<0.005	<0.005		<0.005		<0.005	0.040
10/23/2002	<0.025	0.020	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	0.050
10/28/2002		0.015	<0.005	<0.005		<0.005		<0.005	0.040
11/06/2002		<0.005	<0.005	0.030		<0.005		<0.005	0.035
11/13/2002		<0.005	0.010	<0.005		<0.005		<0.005	0.030
11/21/2002	<0.025	<0.005	0.005	0.010	<0.005	<0.005	<0.0005	<0.005	0.040
11/24/2002		<0.005	<0.005	0.005		<0.005		<0.005	0.035
12/01/2002		<0.005	0.005	0.010		<0.005		<0.005	0.030
12/09/2002		0.005	<0.005	<0.005		<0.005		<0.005	0.040
12/18/2002	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	0.045
12/26/2002		<0.005	<0.005	0.010		<0.005		<0.005	0.030
AVERAGE	<0.025	0.005	0.005	0.007	<0.005	0.003	<0.0005	0.002	0.047

EXHIBIT XXI

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE PRETREATMENT PROGRAM

Biosolids Metals Concentration, mg/kg - 2002

Date	As	Cd	Cr	Cu	CN	Pb	Hg	Ni	Zn
01/02/2002		60	30	626		159		50	2505
01/08/2002		58	29	630		116		<48	2444
01/15/2002	<26	21	51	699	2.9	175	3.2	<51	2467
01/22/2002		<10	29	674		108		<49	2424
01/30/2002		20	20	676		118		<49	2390
02/07/2002		10	20	647		100		<50	2348
02/15/2002		10	20	656		121		<50	2341
02/20/2002	<25	10	10	649	2.6	106	2.4	<48	2246
02/28/2002		<10	39	650		<78		<48	2367
03/06/2002		<10	40	643		<79		<49	2453
03/14/2002	<25	10	40	659	2.4	190	2.3	<50	2438
03/21/2002		10	38	683		77		115	2541
03/27/2002		10	60	684		121		<50	2495
04/02/2002		<10	20	692		99		<49	2648
04/09/2002		20	30	700		120		<50	2480
04/17/2002		10	29	645		115		58	2271
04/23/2002	<26	10	20	686	2.2	92	2.1	<51	2295
05/01/2002		<10	30	788		120		<50	2355
05/09/2002		10	29	731		125		<48	2231
05/16/2002		<10	19	678		107		<48	1860
05/20/2002		<10	30	707		90		<50	2032
05/29/2002		<10	38	700	1.7	153	<0.3	50	1956
06/04/2002		10	40	707		<80		70	1912
06/11/2002		<10	40	689		<80		90	1916
06/19/2002		<10	30	710		81		142	1866
06/25/2002	<25	<10	30	695	<1.4	101	1.6	81	1853
07/02/2002		10	40	665		<79		79	1748
07/11/2002		<10	31	689		<82		<51	1770
07/16/2002	<25	<10	39	681	<1.4	78	1.0	49	1751
07/24/2002		10	30	670		120		<50	1880
08/02/2002		10	30	710		101		<51	1949
08/06/2002		<10	20	719		91		<51	1986
08/13/2002		<10	20	706		90		<50	1950
08/22/2002		20	29	717		79		<49	2043
08/27/2002	<25	20	30	686	<1.6	<81	3.0	<50	1937
09/04/2002		20	50	766		119		<50	2070
09/10/2002		<10	31	682		102		<51	1831
09/19/2002		70	201	783		261		<50	2249
09/24/2002	<24	<10	39	689	2.1	138	2.9	<49	1850
09/30/2002		<10	69	682		<79		<49	1739
10/09/2002		<10	60	693		110		<50	1727
10/16/2002		<10	48	612		96		<48	1683
10/23/2002	<25	<10	30	712		237		<50	1978
10/28/2002		20	20	613		287		<50	2057
11/06/2002		30	89	785		397		60	2741
11/13/2002		10	72	691		309		<52	1979
11/21/2002	<25	29	49	704	4.6	303	0.5	68	2385
11/24/2002		<11	30	661		<81		<51	2082
12/01/2002		<10	20	654		129		<50	1982
12/09/2002		10	30	665		<81		50	1935
12/18/2002	<25	10	30	640		<80		60	1960
12/26/2002		10	29	665		98		98	1994
AVERAGE	**<25**	**11**	**38**	**685**	**1.9**	**110**	**1.9**	**22**	**2123**

EXHIBIT XXII

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Contract Waste Hauling Program 2001 - 2002

Month	Process Gallons	Process Revenue	Septic Gallons	Septic Revenue	Total Gallons	Total Revenue
January	973,800	$43,604.00	15,000	$540.00	988,800	$44,144.00
February	847,200	$37,527.30	40,500	$1,359.00	887,700	$38,886.30
March	884,800	$35,486.10	30,000	$1,080.00	914,800	$36,566.10
April	592,250	$21,999.15	84,000	$3,024.00	676,250	$25,023.15
May	685,072	$27,502.15	46,700	$1,371.60	731,772	$28,873.75
June	534,100	$19,444.50	24,100	$849.60	558,200	$20,294.10
July	751,585	$35,853.38	10,000	$270.00	761,585	$36,123.38
August	413,200	$15,111.00	0	$0.00	413,200	$15,111.00
September	296,050	$9,153.00	5,800	$104.40	301,850	$9,257.40
October	599,050	$19,688.40	0	$0.00	599,050	$19,688.40
November	461,250	$15,842.25	3,500	$63.00	465,250	$15,905.25
December	682,700	$24,977.70	30,000	$1,080.00	712,700	$26,057.70
Total - 2001	7,721,057	$306,188.93	289,600	$9,741.60	8,011,157	$315,930.53
Monthly Average - 2001	643,421	$25,515.74	24,133	$811.80	667,596	$26,327.54
January	1,033,200	$42,126.30	4,900	$88.20	1,038,100	$42,214.50
February	600,550	$21,924.90	11,000	$198.00	611,550	$22,122.90
March	397,630	$14,048.28	8,800	$248.40	406,430	$14,296.68
April	579,150	$19,127.70	4,700	$84.60	583,850	$19,212.30
May	582,250	$20,381.40	20,600	$640.80	602,850	$21,022.20
June	1,152,000	$49,648.50	2,800	$50.40	1,154,800	$49,598.10
July	1,412,750	$63,542.25	12,200	$320.40	1,424,950	$63,862.65
August	1,448,100	$65,293.20	3,564	$64.15	1,451,664	$65,357.35
September	1,429,400	$62,916.75	4,400	$79.20	1,433,800	$62,995.95
October	1,372,350	$60,891.75	5,500	$99.00	1,377,850	$60,990.75
November	1,354,700	$56,727.90	0	$0.00	1,354,700	$56,727.90
December	1,438,200	$57,856.05	0	$0.00	1,438,200	$57,856.05
Total - 2002	12,800,280	$534,484.98	78,464	$1,873.15	12,878,744	$536,257.33
Monthly Average - 2002	1,066,690	$44,540.42	6,539	$156.10	1,073,229	$44,688.11

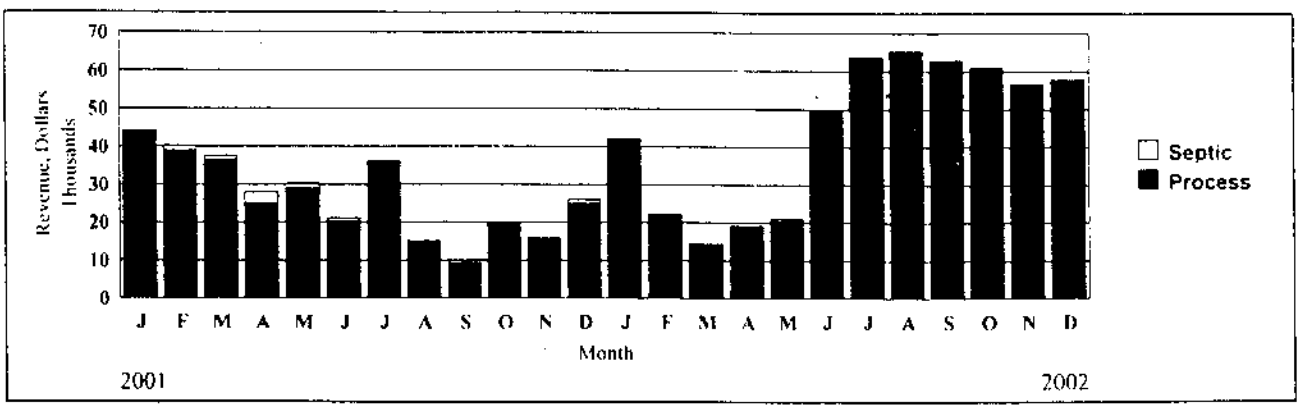


EXHIBIT XXIII

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Contract Waste Hauler Contributions - 2002

Contract Waste Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Total Gallons
Beavertown Muni. Authority	8,000	16,000	20,000	0	8,000	8,000	8,000	8,000	12,000	0	0	0	88,000
Benner's Restaurant	0	0	0	2,300	0	0	0	2,300	0	0	2,300	0	6,900
Boro. of Carroll Valley	0	20,000	20,000	20,000	20,000	20,000	20,000	20,000	15,000	15,000	15,000	15,000	200,000
Boro. of Highspire	0	0	0	0	0	0	21,000	78,000	90,000	75,000	0	0	264,000
Boro. of Lemoyne WWTP	20,000	0	30,000	85,000	20,000	0	30,000	0	0	10,000	0	50,000	245,000
Brush Wellman, Inc	0	0	0	0	12,000	0	0	0	3,500	0	0	0	15,500
Clarks Ferry All Amer. TS	9,200	4,600	9,200	9,200	9,200	9,200	13,800	9,200	9,200	9,200	9,200	9,200	110,400
Creekview Sewage Plant	4,600	2,300	4,600	0	2,300	0	0	0	4,600	4,600	6,900	9,200	39,100
Edward Armstrong & Sons, Inc	4,900	10,000	3,800	4,700	5,600	2,800	6,600	3,564	4,400	5,500	0	0	51,864
Edward Armstrong & Sons, Inc	0	0	0	0	0	0	5,600	0	0	0	0	0	5,600
Elizabethville Area Authority	0	0	0	0	18,000	18,000	0	0	0	0	54,000	0	90,000
Fairfield Municipal Authority	15,000	20,000	0	30,000	0	20,000	25,500	25,000	0	15,000	10,000	0	160,500
Jay Fulkroad & Sons, Inc	0	1,000	0	0	0	0	0	0	0	0	0	0	1,000
Liverpool Municipal Authority	9,200	4,600	13,800	13,800	9,200	4,600	9,200	9,200	9,200	13,800	4,600	3,500	104,700
Lower Allen Twp. Authority	306,000	0	0	0	0	438,000	606,000	618,000	540,000	546,000	426,000	474,000	3,954,000
McAlisterville Area Authority	4,600	0	0	0	0	0	0	0	0	0	0	0	4,600
Mifflinburg WWTP	0	0	0	0	0	0	0	0	0	0	0	26,000	26,000
Millersburg Area Authority	8,000	0	0	0	0	32,000	0	0	0	0	0	4,000	44,000
Millerstown Sewer Plant	9,200	32,200	9,200	13,800	18,400	13,800	13,800	9,200	9,200	13,800	18,400	13,800	174,800
Morton Buildings, Inc	2,000	0	0	0	2,500	0	0	0	0	0	2,000	0	6,500
New Bloomfield WWTP	0	0	0	0	0	18,000	12,000	18,000	18,000	0	12,000	42,000	120,000
Newberry Twp. Muni. Authority	138,600	123,750	108,930	143,550	103,950	99,000	118,800	128,700	94,050	118,800	148,500	193,050	1,519,680
Newville Water & Sewer Auth	67,000	62,400	0	0	0	0	0	0	0	0	30,600	39,600	199,600
New Standard Corporation (Armstrong	56,000	50,000	41,000	35,500	51,900	45,900	51,900	50,800	35,900	50,400	36,000	0	535,300
New Standard Corporation (Klines)	0	0	0	0	0	0	30,000	24,000	30,000	24,000	23,000	6,000	137,000
Paradise Mobile Home Park	0	9,200	4,600	0	0	0	0	0	0	0	0	0	13,800
Perry Twp. Muni. Authority	2,300	0	2,300	0	0	3,000	0	3,000	0	0	3,000	0	13,600
Pine Grove Landfill	0	0	0	0	0	0	0	0	0	0	0	298,100	298,100
Regency Woods North	10,000	10,000	15,000	30,000	10,000	10,000	15,000	15,000	15,000	30,000	10,000	10,000	140,000
Shealer's Septic Service	0	0	5,000	0	15,000	0	0	0	0	0	0	0	20,000
Sunbury Muni. Authority	214,000	162,000	54,000	0	156,000	263,000	340,250	327,500	349,250	310,750	362,000	244,750	2,779,500
Twin Boroughs Sani. Authority	123,500	78,000	65,000	130,000	130,000	149,500	97,500	91,000	104,500	156,000	175,500	0	1,390,500
United Defense, LP	0	5,500	0	5,500	10,800	0	0	11,200	0	0	5,700	0	38,700
Washington Twp. Authority	0	0	0	0	0	0	0	0	0	0	0	0	0
Wyeth-Averst Laboratories	0	0	0	80,500	0	0	0	0	0	0	0	0	80,500
Totals	1,038,100	611,550	466,430	583,850	602,850	1,154,800	1,124,950	1,451,664	1,433,500	1,427,850	1,354,700	1,438,200	12,878,744

EXHIBIT XXIV

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

Cogeneration Electrical Production: 2001 - 2002

Period	Percent Run Time	Daily Avg Kilowatt	Kilowatt Hours Produced	Revenue Collected
Dec 31st - Jan 29th, 2001	2	167	5,000	$300.00
Jan 29th - Feb 28th, 2001	28	2,871	80,400	$4,824.00
Feb 28th - Mar 29th, 2001	46	4,400	132,000	$7,920.00
Mar 29th - Apr 29th, 2001	64	6,173	185,200	$11,112.00
Apr 29th - May 30th, 2001	81	7,813	234,400	$14,064.00
May 30th - Jun 27th, 2001	70	6,720	201,600	$12,096.00
Jun 27th - Jul 27th, 2001	70	6,507	201,720	$12,103.00
Jul 27th - Aug 27th, 2001	69	6,263	194,160	$11,650.00
Aug 27th - Sep 27th, 2001	26	2,404	72,120	$4,327.00
Sep 27th - Oct 27th, 2001	1	99	3,080	$185.00
Oct 27th - Nov 29th, 2001	3	287	8,600	$516.00
Nov 29th - Dec 29th, 2001	54	5,001	155,040	$9,302.00
Total - 2001	514	48,705	1,473,320	$88,399.00
Monthly Average - 2001	43	4,059	122,777	$7,366.58
Dec 29th - Jan 29th, 2002	76	7,299	218,960	$13,138.00
Jan 29th - Feb 28th, 2002	78	7,823	219,040	$13,142.00
Feb 28th - Mar 29th, 2002	69	6,671	200,120	$12,007.00
Mar 29th - Apr 29th, 2002	91	8,927	267,800	$16,068.00
Apr 29th - May 30th, 2002	53	5,103	153,080	$9,185.00
May 30th - Jun 27th, 2002	50	4,821	144,640	$8,678.00
Jun 27th - Jul 27th, 2002	85	7,881	244,320	$14,659.00
Jul 27th - Aug 27th, 2002	21	1,912	59,280	$3,556.80
Aug 27th - Sep 27th, 2002	11	1,060	31,800	$1,908.00
Sep 27th - Oct 27th, 2002	34	3,173	98,360	$5,902.00
Oct 27th - Nov 29th, 2002	17	1,420	42,600	$2,556.00
Nov 29th - Dec 29th, 2002	38	3,517	109,040	$6,542.00
Total - 2002	623	59,607	1,789,040	$107,341.80
Monthly Average - 2002	52	4,967	149,087	$8,945.15

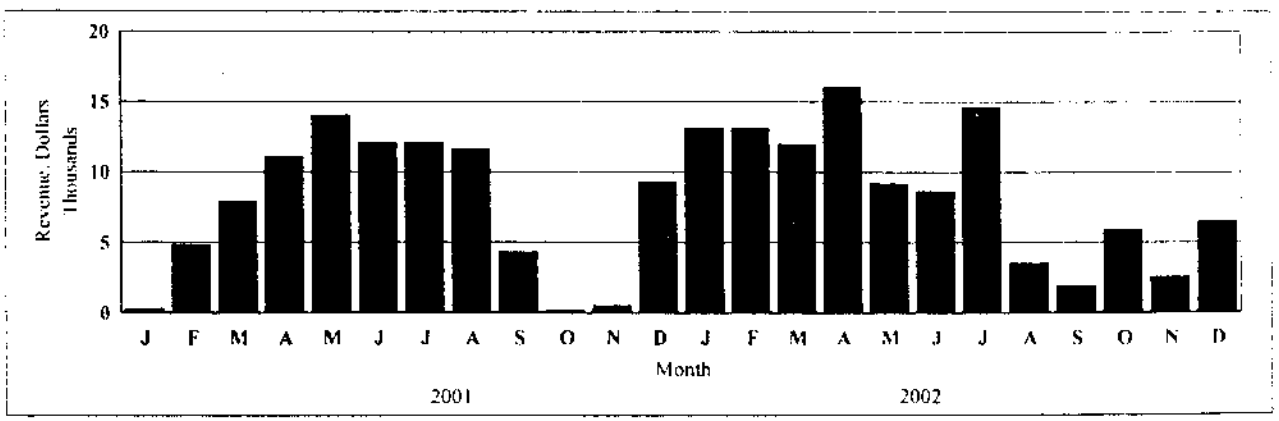


EXHIBIT XXV

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

2002 Personnel Directory

Management Staff

Name	Position	Employment Date
Deily, Michael A.	Chief Chemist	01/20/1987
Fenstermacher, C. Richard	Maintenance Supervisor	02/20/1973
Ingiosi, John P.	Shift Supervisor	04/24/1995
Mealy, Thomas J.	Superintendent	02/25/1985
Schaffer, Randy L.	Pretreatment Coordinator	03/06/1989
White, Robert B.	Operations Supervisor	05/22/2000
Williams, John F.	Director of Admin./Maint.	11/20/1970
Williams, Walter J.	Shift Supervisor	08/06/1990

Bargaining Unit Employees

Name	Position	Employment Date
Baker, Joseph P.	Maint. Worker IV	01/14/1980
Barkos, Michael A.	Operator III	10/04/1982
Bowers, Rodney G.	Cheif Electrician	12/10/1979
Brightbill, Barry L.	Operator III	07/28/1986
Crosson, Richard A.	Field Maint. Worker II	02/16/1988
Foley, James M.	Operator III	02/17/1981
Foltz, James E.	Laboratory Technician III	03/18/1991
Forney, Douglas J.	Operator I	02/16/1988
Freysinger, Kenneth L.	Field Maint. Specialist II	07/01/1985
Grove, Ronald A	Operator I	07/15/1991
Hoke, Raymond E.	Operator II	02/09/1981
Hollman, Jeremiah	Maint. Worker IV	08/22/1988
Hurst, Kevin	Operator III	12/15/1980
Jenkins, Kim J.	Field Maint. Specialist II	09/08/1987
Jones, Robert A.	Field Maint. Worker II	07/01/1991
Kelly, Leonard R.	Operator IV	01/25/1972
Kolakowski, David J	Operator IV	08/12/1983
Lenker, Richard E.	Maint. Worker IV	04/29/1974
Martin, Kevin E	Operator I	10/15/1991
Miller, Bradley E	Laboratory Technician III	05/01/1995
Mountain, Brian L	Operator IV	07/13/1981
Garcia-Navarro, Jorge	Laborer II	08/25/1997
Palmer, Jack W	Maint. Worker IV	04/29/1974
Scheib, Deborah A.	Laboratory Technician IV	05/21/1979
Snyder, Charles S.	Operator II	09/28/1992
Snyder, Rita T	Administrative Assistant I	07/21/1997
Stein, Mitch G	Field Maint. Specialist II	04/04/1988
Werner John L.	Maint. Worker IV	07/05/1974
Wilfong, Mark N.	Operator I	12/15/1980
Young, Donald A	Operator III	11/12/1973
Zeigler, James L.	Maint. Worker IV	04/30/1979

EXHIBIT XXVI

CITY OF HARRISBURG
ADVANCED WASTEWATER TREATMENT FACILITY

ORGANIZATIONAL CHART

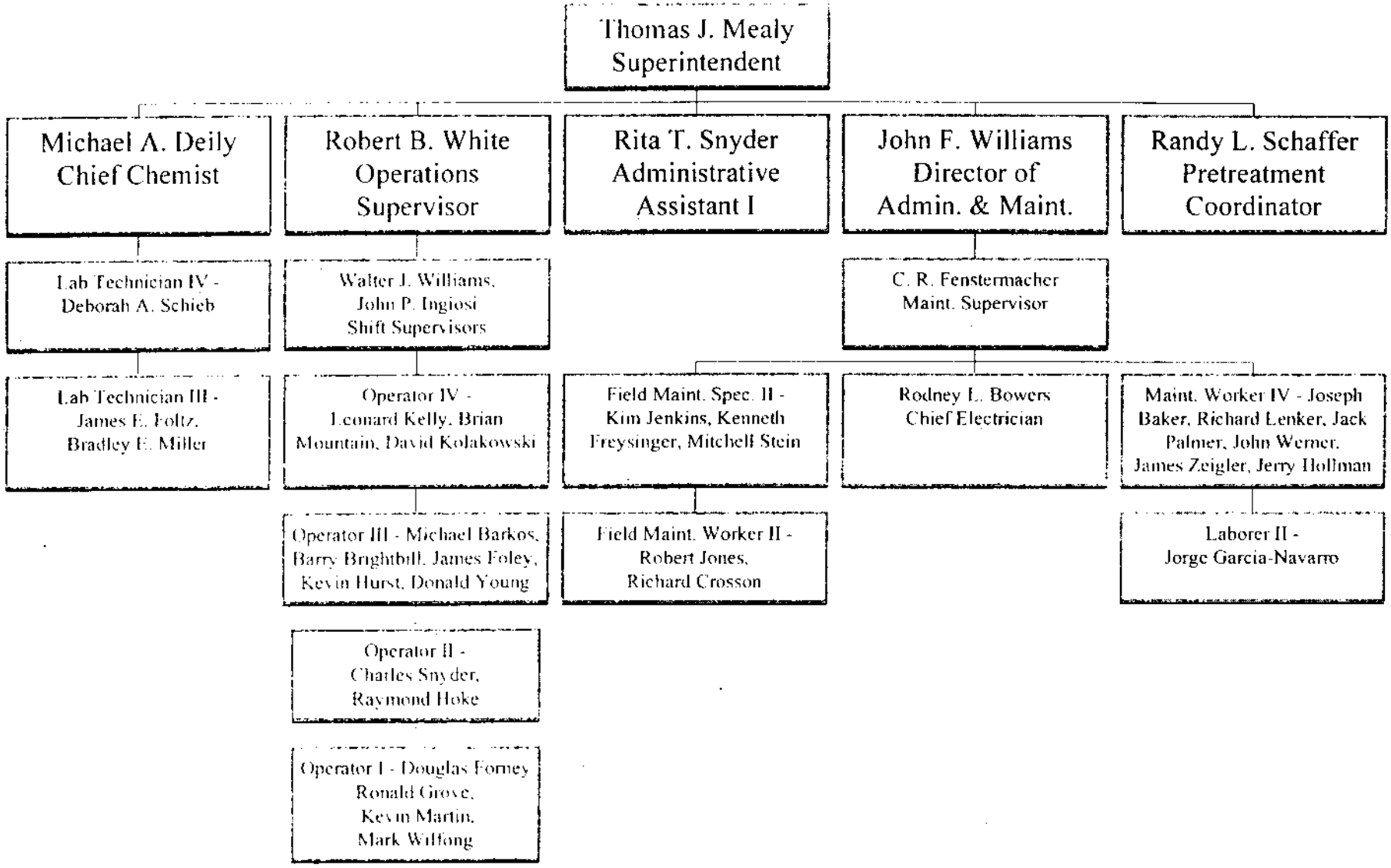


Figure I

Influent Metals Concentration

Yearly Averages: 1998 - 2002

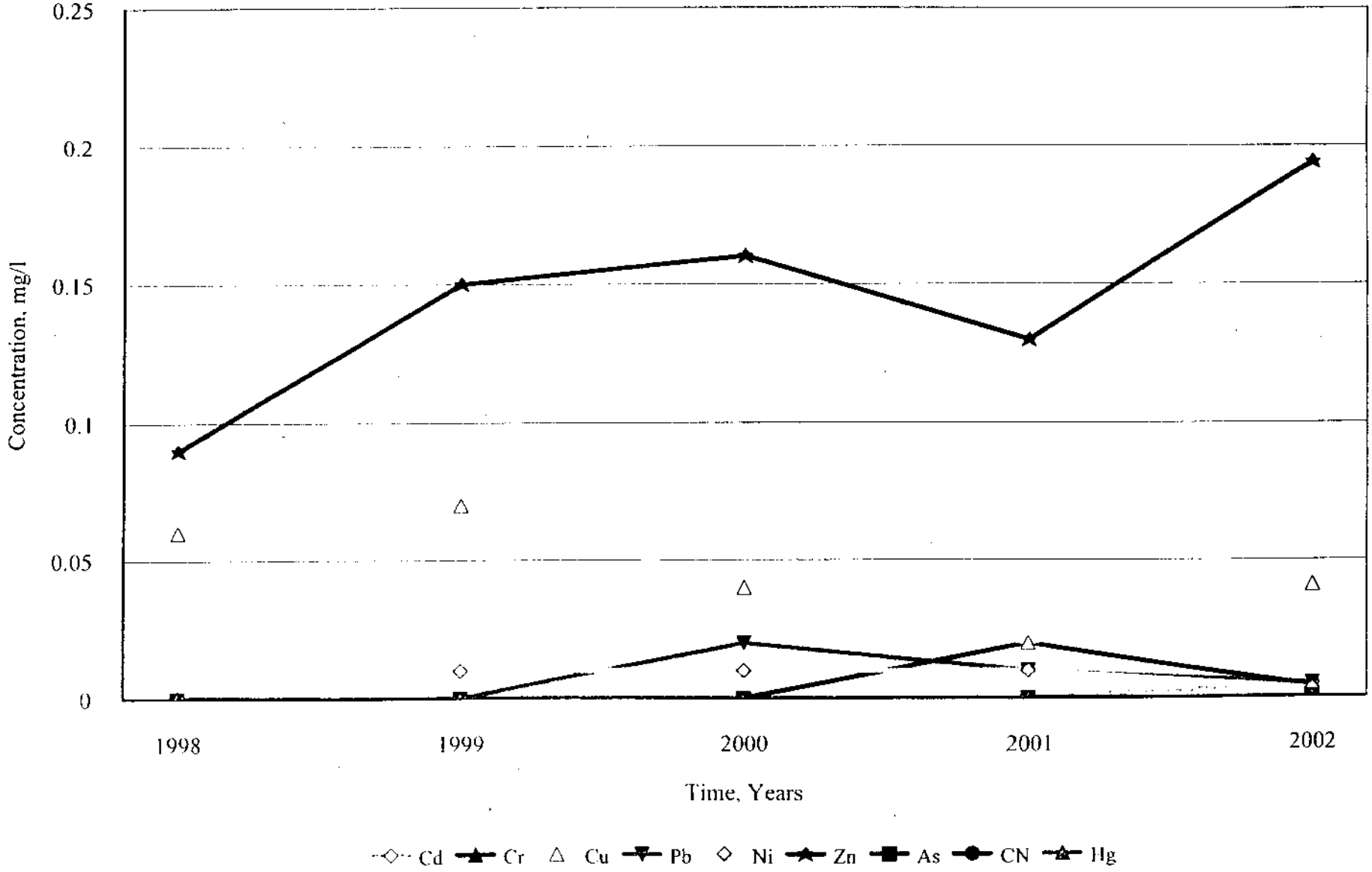


Figure II

Effluent Metals Concentration

Yearly Averages: 1998 - 2002

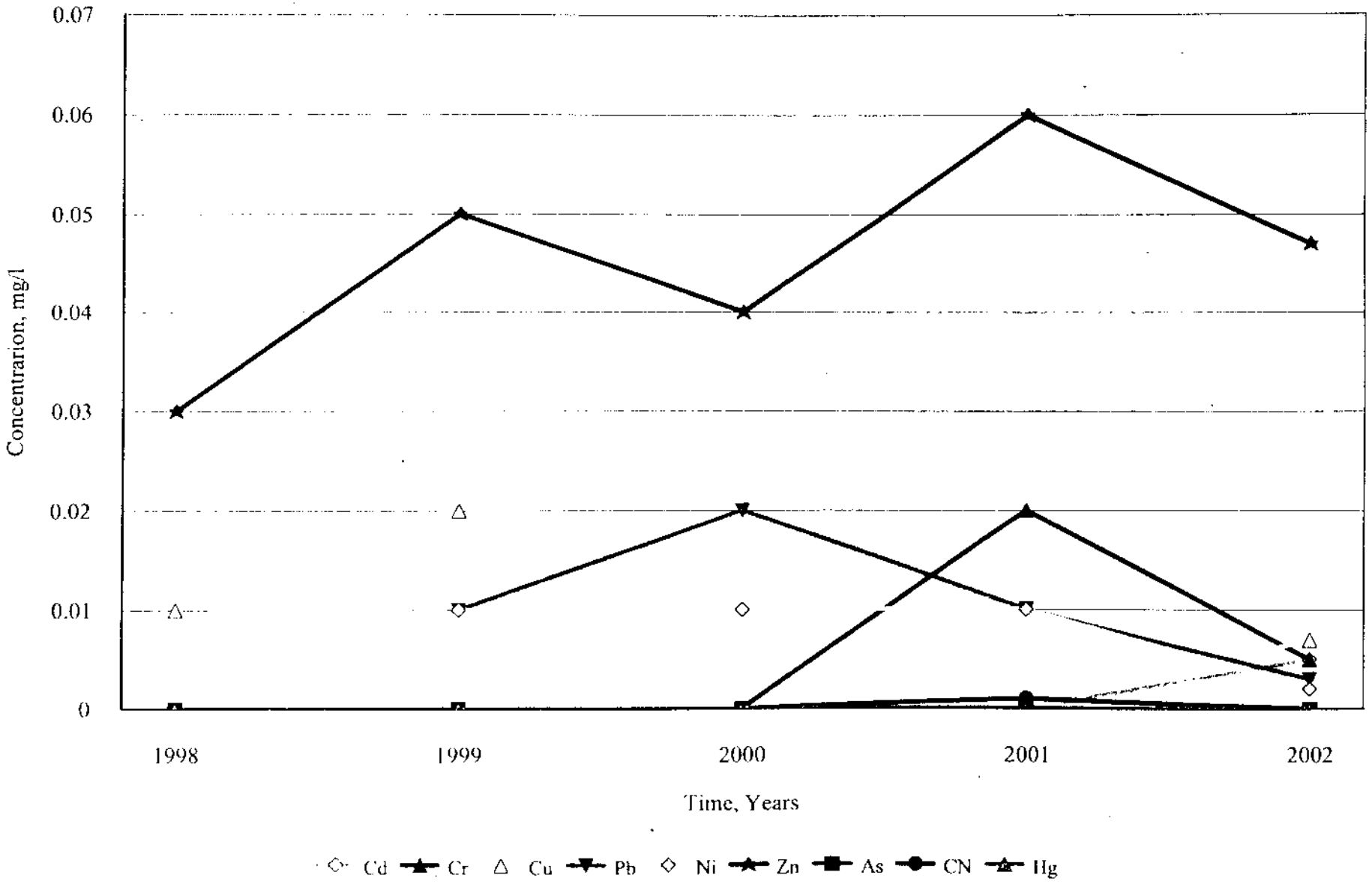


Figure III

Biosolids Metals Concentration

Yearly Averages: 1998 - 2002